Time & Time Again

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TIME AND TIME AGAIN JOHN ZERZAN



hese three essays were written about a dozen years apart, from the mid-'80s to 2017. I've been intrigued by the subject and so have returned to try again.

I think that it is with time—that is, our consciousness of this so-elusive object—that we first enter into a symbolic field or dimension. Our lives thus begin an estrangement that grows and grows. Time and alienation are two words that are the measure of each other. Time becomes a thing, standing pitilessly over us.

Taken together maybe these pieces are strands toward solving the puzzle of time. In my view the topic is best understood historically (and pre-historically) so as to ground and be able to chart its course.

Once we lived without time. Now it's all too real. But it was never a natural or inevitable development. A harbinger of symbolic culture...and look what that's brought us.

BEGINNING OF TIME END OF TIME

ust as today's most obsessive notion is that of the material reality of time, self-existent time was the first lie of social life. As with nature, time did not exist before the individual became separate from it. Reification of this magnitude—the beginning of time—constitutes the Fall: the initiation of alienation, of history.

Spengler observed that one culture is differentiated from another by the intuitive meanings assigned to time, ¹ Canetti that the regulation of time is the primary attribute of all government.² But the very movement from community to civilization is also predicated there. It is the fundamental language of technology and the spirit of domination.

Today the feverish acceleration of time, as well as the failure of the "solution" of spatializing it, is exposing it as an artificial, oppressive force along with its corollaries, Progress and Becoming. More concretely, technology and work are being revealed by the palpable thrall of time. Either way, the pressure to dissolve history and the rule of time hasn't been so strong since the Middle Ages, before that, since the Neolithic revolution establishing agriculture.

When the humanization of technology and work appear as dubious propositions, the humanization of time itself is also called into question. The questions forming are, how can basic oppressions be effectively controlled or reformed? Why not abolished?

Quoting Hegel approvingly, Debord wrote, "Man, 'the negative being who *is* only to the extent that he suppresses Being,' is identical to time." This equation is being refused, a situation perhaps best illumined by looking at the origins, evolution and present status of time.

If "all reification is forgetting," in Horkheimer and Adorno's pregnant phrase, it seems equally true that all "forgetting"—in the sense of loss of contact with our time-less beginnings, of constant "falling into time"—is a reification. All the other reifications, in fact, follow this one.⁵

It may be due to the huge implications involved that no one has satisfactorily defined the objectification called time and its course. From time, into history, through progress, and so to the murderous idolatry of the future, which now kills species, languages, cultures, and possibly the entire natural world. This essay should go no further without declaring an intent and strategy: technological society can only be dissolved (and prevented from recycling) by annulling time and history.

"History is eternal becoming and therefore eternal future; Nature is become and therefore eternally past," as Spengler put it. This movement

is also well captured by Marcuse's "History is the negation of Nature,"7 the increasing speed of which has carried man quite outside of himself. At the heart of the process is the reigning concept of temporality itself, which was unknown in early humans

Levy-Bruhl provides an introduction: "Our idea of time seems to be a natural attribute of the human mind. But that is a delusion. Such an idea scarcely exists where primitive mentality is concerned..."8 The Frankfurts concluded that primeval thought "does not know time as uniform duration or as a succession of qualitatively indifferent moments."9 Rather, early individuals "lived in a stream of inner and outer experience which brought along a different cluster of coexisting events at every moment, and thus constantly changed, quantitatively and qualitatively."10

Meditating on the skull of a plains hunter-gatherer woman, Jacquetta Hawks could imagine the "eternal present in which all days, all the seasons of the plain stand in an enduring unity."11 In fact, life was lived in a continuous present, 12 underlying the point that historical time is not inherent in reality, but an imposition on it. The concept of time itself as an abstract, continuing "thread," unraveling in an endless progression that links all events together while remaining independent of them, was completely unknown.

Henri-Charles Puesch's term "articulated atemporality" is a useful one, which reflects the

fact that awareness of intervals, for instance, existed with the absence of an explicit sense of time. The relationship of subject to object was radically different, clearly, before temporal distance intruded into the psyche. Perception was not the detached act we know now, involving the distance that allows an externalization and domination of nature.

Of course, we can see the reflections of this original condition in surviving tribal peoples, in varying degrees. Wax said of the 19th century Pawnee Indians, "Life had a rhythm but not a progression." The Hopi language employs no references to past, present, or future. Further in the direction of history, time is explicit in Tiv thought and speech, but it is not a category of it, just as another African group, the Nuer, have no concept of time as a separate idea. The fall into time is a gradual one; just as the early Egyptians kept two clocks, measuring everyday cycles and uniform "objective" time, the Balinese calendar "doesn't tell what time it is, but rather what kind of time it is." 14

In terms of the original, hunter-gatherer humanity¹⁵ generally referred to above, a few words may be in order, especially inasmuch as there has been a "nearly complete reversal in anthropological orthodoxy"¹⁶ concerning it since the end of the 1960s. Life prior to the earliest agricultural societies of about 10,000 years ago had been seen as nasty, short, and brutish, but

the research of Marshall Sahlins, Richard Lee and others has changed this view very drastically. Foraging now represents the original affluent society in that it provided life and pleasures with a minimum of effort; work was regarded strictly as a social cost and the spirit of the gift predominated.17

This, then, was the basis of no-time, bringing to mind Whitrow's remarks that "Primitives live in a now, as we all do when we are having fun"18 and Nietzsche's that "All pleasure desires eternity-deep, deep eternity."

The idea of an original state of pleasure and perfection is very old and virtually universal.¹⁹ The memory of a "Lost Paradise"-and often an accompanying eschatology that demands the destruction of subsequent existence-is seen in the Taoist idea of a Golden Age, the Cronia and Saturnalia of Rome, the Greek's Elysium, and the Christian Garden of Eden and the Fall (probably deriving from the Sumerian laments for lost happiness in lordless society), to name but a few. The loss of a paradisal situation with the dawn of time reveals time as the curse of the Fall, history seen as a consequence of Original Sin. Norman O. Brown felt that "Separateness, then is the Fall-the fall into division, the original lie,"20 Walter Benjamin that "the origin of the abstraction...is to be sought in the Fall."21 Conversely, Eliade discerned in the shamanic experience a "nostalgia for paradise," in exploring the belief that "what the shaman can do today *in ecstasy*" could, prior to the hegemony of time, "be done by all human beings *in concreto*"²² Small wonder that Loren Eisely saw in aboriginal people "remarkably effective efforts to erase or ignore all that is not involved with the transcendent search for timelessness, the happy land of no change,"²³ or that Lévi-Strauss found primitive societies determined to "resist desperately any modification in their structure that would enable history to burst forth into their midst."²⁴

If all this seems a bit too heady for such a sober topic as time, a few modern clichés may give pause to where an absence of wisdom really lies. John G. Gunnell tells us that "Time is a form of ordering experience,"25 an exact parallel to the equally fallacious assertion of the neutrality of technology. Even more extreme in its fealty to time is Clark and Piggott's bizarre claim that "human societies differ from animal ones, in the final resort, through their consciousness of history."26 Erich Kahler has it that "Since primitive peoples have scarcely any feeling for individuality, they have not individual property,"27 a notion as totally wrong as Leslie Paul's "In stepping out of nature, man makes himself free of the dimension of time."28 Kahler, it might be added, is on vastly firmer ground in noting that the early individual's "primitive participation with his universe and with his community begins to disintegrate" with the acquiring of time.²⁹ Seidenberg also detected this loss, in which our ancestor "found himself diverging ever further from his instinctual harmony along a precarious path of unstable synthesis. And that path is history."30

Coming back to the mythic dimension, as in the generalized ancient memory of an original Eden-the reality of which was hunter-gatherer life-we confront the magical practices found in all races and early societies. What is seen here, as opposed to the timebound mode of technology, is an atemporal intervention aimed at the "reinstatement of the usual uniformities of nature."31 It is this primary human interest in the regularity, not the supersession, of the processes of nature that bears emphasizing. Related to magic is totemism, in which the kinship of all living things is paramount; with magic and its totemic context, participation with nature underlies all.

"In pure totemism," says Frazer, "...the totem [ancestor, patron] is never a god and is never worshipped."32 The step from participation to religion, from communion with the world to externalized deities for worship, is a part of the alienation process of emerging time. Ratschow held the rise of historical consciousness responsible for the collapse of magic and its replacement by religion,³³ an essential connection. In much the same sense, then, did Durkheim consider time to be a "product of religious thought."34 Eliade saw this gathering separation and related it to social life: "the most extravagant myths and rituals, Gods and Goddesses of the most various kinds, the Ancestors, masks and secret societies, temples, priesthoods, and so on—all this is found in cultures that have passed beyond the stage of gathering and small-game hunting..."³⁵

Elman Service found the band societies of the hunter-gatherer stage to have been "surprisingly" egalitarian and marked by the absence not only of authoritarian chiefs, but of specialists, intermediaries of any kind, division of labor, and classes.³⁶ Civilization, as Freud repeatedly pointed out, with alienation at its core, had to break the early hold of timeless and non-productive gratification.³⁷

In that long, original epoch, alienation first began to appear in the shape of time, although many tens of thousands of years' resistance stayed its definitive victory, its conversion into history. Spatialization, which is the motor of technology, can be traced back to the earliest sad experiences of deprivation through time, back to the beginning efforts to offset the passage to time by extension in space. The injunction in Genesis to "Be fruitful and multiply" was seen by Cioran as "criminal." Possibly he could see in it the first specialization-that of humans themselves-for division of labor and the other ensuing separations may be said to stem from the large growth of human numbers, with the progressive breakdown of hunter-gatherer life. The bourgeois way of stating this is the cliché that domination (rulers, cities, the state, etc.) was the natural outcome of "population pressures."

In the movement from the hunter-gatherer to the nomad we see spatialization in the form, at about 1200 BC, of the war chariot (and the centaur figure). The intoxication with space and speed, as compensation for controlling time, is obviously with us yet. It is a kind of sublimation; the anxious energy of the sense of time is converted toward domination spatially, most simply.

With the end of a nomadic existence, the social order is created on a basis of fixed property,³⁹ a further spatialization. Here enters Euclid, whose geometry reflects the needs of the early agricultural systems and which established science on the wrong track by taking space as the primary concept.

In attempting a typology of the egalitarian society, Morton Fried declared that it had no regular division of labor (and thus no political power accrued therefrom) and that "Almost all of these societies are founded upon hunting and gathering and lack of significant harvest periods when large reserves of food are stored."40 Agricultural civilization changed all this, introducing production via the development of surplus and specialization. Supported by surplus, the priest measured time, traced celestial movement, and predicted future events. Time, controlled by a powerful elite, was used directly to control the lives of great numbers of men and women.⁴¹ The masters of the early calendars and their attendant lore "became a separate priestly caste,"42 according to Lawrence

Wright. A prime example was the very time-obsessed Mayans; G. J. Whitrow tells us that "of all ancient peoples, the Mayan priests developed the most elaborate and accurate astronomical calendar, and thereby gained enormous influence over the masses."

Generally speaking, Henry Elmer Barnes is quite correct that formal time concepts came with the development of agriculture.44 One is reminded here of the famous Old Testament curse of agriculture (Genesis 3:17-18) at the expulsion from Paradise, which announces work and domination. With the advance of farming culture the idea of time became more defined and conceptual, and differences in the interpretation of time constituted a demarcation line between a state of nature and one of civilization, between the educated classes and the masses.45 It is recognized as a defining mode of the new Neolithic phenomena, as expressed by Nilsson's comment that "ancient civilized peoples appear in history with a fully-developed system of time-reckoning,"46 and by Thompson's that "the form of the calendar is basic to the form of a civilization "47

The Babylonians gave the day twelve hours, the Hebrews gave the week seven days, and the early notion of cyclical time, with its partial claim to a return to the beginnings, gradually succumbed to time as a linear progression. Time and domestication of nature advanced, at a price unrivalled. "The discovery of agriculture," as Eliade claimed,

"provoked upheavals and spiritual breakdowns whose magnitude the modern mind finds it wellnigh impossible to conceive."48 A world fell before this virulent partnership, but not without a vast struggle. So with Jacob Burckhardt we must approach history "as it were as a pathologist"; with Hölderlin we still seek to know "How did it begin? Who brought the curse?"

Resuming the narrative, even up to Greek civilization did resistance flourish. In fact, even with Socrates and Plato and the primacy of systematic philosophy, was time at least held at bay, precisely because "forgetting" timeless beginnings was still regarded as the chief obstacle to wisdom or salvation.⁴⁹ J. B. Bury's classic *The Idea of Progress* pointed out the "widely-spread belief" in Greece that the human race had decidedly degenerated from a initial "golden age of simplicity" 50-a longstanding bar to the progress of the idea of progress. Christianson found the anti-progress attitude later yet: "The Romans, no less than the Greeks and Babylonians, also clung to various notions of cyclical recurrence in time..."51

With Judaism and Christianity, however, time very clearly sharpened itself into a linear progression. Here was a radical departure, as the urgency of time seized upon humanity. Its standard features were outlined by Augustine, not coincidentally at one of the most catastrophic moments of historythe collapse of the ancient world and the fall of Rome.⁵² Augustine definitively attacked cyclical

time, portraying a unitary mankind that advances irreversibly through time; appearing at about 400 AD, it is the first notable theory of history.

As if to emphasize the Christian stamp on triumphant linear time, one soon finds, in feudal Europe, the first instance of daily life ruled by a strict time-table: the monastery.⁵³ Run like a clock, organized and absolute, the monastery confined the individual in time just as its walls confined him in space. The Church was the first power to conjoin the measurement of time and a temporally ordered mode of life, a project it pursued vigorously.⁵⁴ The invention of the striking and wheeled clock by Pope Sylvester II, in the year 1000, is thus quite fitting. The Benedictine order, in particular, has been seen by Coulton, Sombart, Mumford and others as perhaps the original founder of modern capitalism. The Benedictines, who ruled 40,000 monasteries at their height, helped crucially to yoke human endeavor to the regular, collective beat and rhythm of the machine, reminding us that the clock is not merely a means of keeping track of the hours, but of synchronizing human action.⁵⁵

In the Middle Ages, specifically the 14th century, the march of time met a resistance unequalled in scope, quite possibly, since the Neolithic revolution of agriculture. This claim can be assessed by a comparison of the very basic developments of time and social revolt, which seems to indicate a definite and profound collision of the two.

With the 1300s quantified, official time staked its claim to the colonization of modern life; time then became fully abstracted into a uniform series of units, points and sections. The technology of the verge escapement early in the century produced the first modern mechanical clock, symbol of a qualitatively new era of confinement now dawning as temporal associations became completely separate from nature. Public clocks appeared, and around 1345 the division of hours into sixty minutes and of minutes into sixty seconds became common,56 among other new conventions and usages across Europe. The new exactitude carried a tighter synchronization forward, essential to a new level of domestication. Glasser remarked on the "loss of poetry and immediacy in personal experience" caused by time's new power, and reflected that this manifestation of time replaced the movement and radiance of the day by its utilization as a temporal unit.57 Days, hours, and minutes became interchangeable like the standardized parts and work processes they prefigured.

These decisive and oppressive changes must have been at the heart of the great social revolts that coincided with them. Textile workers, peasants, and city poor shook the norms and barriers of society to the point of dissolution, in risings such as that of Flanders between 1323 and 1328, the Jacquerie of France of 1358, and the English revolt of 1381, to name only the three most

prominent. The millennial character of revolutionary insurgence at this time, which in Bohemia and Germany persisted even into the early 16th century, underlines the unmistakable time element and recalls earlier examples of longing for an original, unmediated condition. The mystical anarchism of the Free Spirit in England sought the state of nature, for example, as did the famous proverb stressed by the rebel John Ball: "When Adam delved and Eve span, who then was a gentleman?" Very instructive is a meditation of the radical mystic Suso, of Cologne, at about 1330: 'Whence have you come?' The image (appearing to Suso) answers 'I come from nowhere.' 'Tell me, what are you?' 'I am not.' 'What do you wish?' 'I do not wish.' 'This is a miracle! Tell me, what is your name?' 'I am called Nameless Wildness.' 'Where does your insight lead to?' 'To untrammelled freedom.' 'Tell me, what do you call untrammelled freedom?' 'When a man lives according to all his caprices without distinguishing between God and himself, and without looking before or after...'58

The desire "to hold all things in common," to abolish rank and hierarchy, and, even more so, Suso's explicitly anti-time utterance, reveal the most extreme desires of the 14th century social revolt and demonstrate its element of time refusal.⁵⁹

This watershed in the late medieval period can also be understood via art, where the measured space of perspective followed the measured time of the clocks. Before the 14th century there was no attempt at perspective because the painter attempted to record things as they are, not as the look. After the 14th century, an acute time sense informs art; "Not so much a place as a moment is fixed for us, and a fleeting moment: a point of view in time more than in space,"60 as Bronowski described it. Similarly, Yi-Fu Tuan pointed out that the landscape picture, which appeared only with the 15th century, represented a major re-ordering of time as well as space with its perspective.61

Motion is stressed by perspective's transformation of the similarity of space into a happening in time, which, returning to the theme of spatialization, shows in another way that a "quantum leap" in time had occurred. Movement again became a source of values following the defeat of the 14th century resistance to time; a new level of spatialization was involved, as seen most clearly in the emergence of the modern map, in the 15th century, and the ensuing age of the great voyages. Braudel's phrase, modern civilization's "war against empty space,"62 is best understood in this light.

"The new valuation of Time, which then broke to the surface, actually became one of the most powerful agencies by which Western thought, at the end of the Middle Ages, was transformed..."63 was Kantorowicz's way of expressing the new, strengthened hegemony of time. If in this objective temporal order of official, legal, factual time only

the spatial found the possibility of real expression, all thinking would be necessarily shifted, and also brought to heel. A good deal of this reorientation can be found in Le Goff's simple observation concerning the early 15th century, that "the first virtue of the humanist is a sense of time."

How else could modernity be achieved but by the new dimensions reached by time and technology together, their distinctive and perfected mating? Lilley noted that "the most complex machines produced by the Middle Ages were mechanical clocks,"65 just as Mumford saw that "the clock, not the steam engine, is the key machine of the modern industrial age."66 Marx too found here the first basis of machine industry: "The clock is the first automatic machine applied to practical purposes, and the whole theory of production of regular motion was developed on it."67 Another telling congruence is the fact that, in the mid-15th century, the first document known to have been printed on Gutenberg's press was a calendar (not a Bible). And it is noteworthy that the end of the millenarian revolt, such as that of the Taborites of Bohemia in the 15th century and the Anabaptists of Münster in the early 16th century, coincided with the perfection and spread of the mechanical clock. In Peter Breughel's The Triumph of Time (1574), the many objects and ideas of the painting are dominated by the figure of a modern clock.

This triumph, as noted above, awakened a great spatial urge by way of compensation:

circumnavigating the globe and the discovery, suddenly, of vast new lands, for example. But just as certain is its relationship to "the progressive disrealization of the world,"68 in the words of Charles Newman, which began at this time. Extension, in the form of domination, obviously accentuated alienation from the world: a totally fitting accompaniment to the dawning of modern history.

Official time had become a barrier both palpable and all-pervasive, filtering and distorting what people said to each other. As of this time, it unmistakably imposed a new distance on human relations and restraint on emotional responses. A Renaissance hallmark, the search for rare manuscripts and classical antiquities, is one form of longing to withstand this powerful time. But the battle had been decided, and abstract time had become the milieu, the new framework of existence. When Ellul opined that "the whole structure of being" was now permeated by "mechanical abstraction and rigidity," he referred most centrally to the time dimension.

All this bloomed in the 1600s, from Bacon, who first proclaimed modernity's domination of nature, and Descartes' formulation regarding the maitres et possesseurs de la nature, which "predicted the imperialistic control of nature which characterizes modern science,"69 including Galileo and the whole ensemble of the century's scientific revolution. Life and nature became mere

quantity, the unique lost its strength, and soon the Newtonian image of the world as a clock-like mechanism prevailed. Equivalence—with uniform time as its real model—came to rule, in a development that made "the dissimilar comparable by reducing it to abstract quantities."

The poet Ciro di Pers understood that the clock made time scarce and life short. To him, it

Speeds on the course of the fleeing century, And to make it open up, Knocks every hour at the tomb.⁷¹

Later in the 17th century, Milton's *Paradise Lost* sides with victorious time, to the point of denigrating the timeless, paradisiacal state:

with labor I must earn My bread; what harm? Idleness had been worse.⁷²

Well before the beginnings of industrial capitalism, then, had time substantially subdued and synchronized life; advancing technology can be said to have been borne by the earlier breakthroughs of time. "It was the beginning of modern time that made the speed of technology possible," concluded Octavio Paz. E. P. Thompson's widely-known "Time, Work, Discipline, and Industrial Capitalism" described the industrialization of time, but, more fundamentally, it was

time that did the industrializing, the great daily life struggles of the late 18th and early 19th centuries against the factory system⁷⁵ notwithstanding.

In terms of the modern era, again one can discern in social revolts the definite aspect of time refusal, however inchoate. In the very late 18th century, for instance, the context of two revolutions, one must judge, helped Kant see that space and time are not part of the empirical world but part of our acquired intersubjective faculties. It is a non-revolutionary twist that a new, short-lived, calendar was introduced by the French Revolution-not resistance to time, but its renewal under new management!⁷⁶ Walter Benjamin wrote of actual time refusal vis-à-vis the July revolution of 1830, noting the fact that in early fighting "the clocks in towers were being fired on simultaneously and independently from several places in Paris." He quoted an eyewitness the following verse:

> Who would have believed? We are told that new Joshuas at the foot of every tower, as though irritated with time itself, fired at the dials in order to stop the day.⁷⁷

Not that moments of insurgence are the only occasions of sensitivity to time's tyranny. According to Poulet, no one felt more grievously the metamorphosis of time into something quite infernal than did Baudelaire, who wrote of the malcontents "who have refused redemption by work," who wanted "to possess immediately, on this earth, a Paradise"; these he termed "Slaves martyred by Time," a notion echoed by Rimbaud's denunciation of the scandal of an existence in time. These two poets suffered in the long, dark night of capital's mid- and late-19th century ascendancy, though it could be argued that their awareness of time was made clearest via their active participation, respectively, in the 1848 revolution and the Commune of 1871.

Samuel Butler's utopian *Erewhon* portrayed workers who destroyed their machines lest their machines destroy them. Its opening theme derives from the incident of wearing a watch, and later a visitor's watch is rather forcibly retired to a museum of bygone evils. Very much in this spirit, and from the same era, are these lines of Robert Louis Stevenson:

You may dally as long as you like by the roadside. It is almost as if the millennium were arrived, when we shall throw our clocks and watches over the housetop, and remember time and seasons no more. Not to keep hours for a lifetime is, I was going to say, to live forever. You have no idea, unless you have tried it, how endlessly long is a summer's day, that you measure only by hunger, and bring to an end only when you are drowsy.⁷⁹

Referring to such phenomenon as huge political rallies, Benjamin's "The Work of Art in the Age of Mechanical Reproduction" made the point that "Mass reproduction is aided especially by the reproduction of masses..."80 But one could go much further and say simply that mass reproduction is the reproduction of masses, or the massman. Mass production itself with its standardized, interchangeable parts and wage-labor to match constitutes a fascism of everyday life long predating the fascist rallies Benjamin had in mind. And, as described above, it was time, several hundred years before that, which provided the categorical paradigm to mass production, in the form of uniform but discrete quanta ordering life.

Stewart Ewen held that during the 19th and early 20th centuries, "the industrial definition of social time and space stood at the core of social unrest,"81 and this is certainly true; however, the breadth of the time and space "issue" requires a rather broad historical perspective to allow for a comprehension of modernity's unfolding mass age.

That the years immediately preceding World War I expressed a rising radical challenge requiring the fearful carnage of the war to divert and destroy it is a thesis I have argued elsewhere.82 The depth of this challenge can best be plumbed in terms of the refusal of time. The contemporary tension between the domains of being and of time was first elucidated by Bergson in the prewar period in his protest against the fragmentary and repressive character of mechanistic time."83 With his distrust of science, Bergson argued that a qualitative sense of time, of lived experience or *durée*, requires a resistance to formalized, spatialized time. Though limited, his outlook announced the renewal of a developing opposition to a tyranny that had come to inform so many elements of subjugation.

Most of this century's anti-time impulse was rather fully articulated in the quickening movement just prior to the war. Cubism's urgent reexamination of appearances belongs here, of course; by smashing visual perspective, which had prevailed since the early Renaissance, the Cubists sought to apprehend reality as it was, not as it looked at a moment of time. It is this which enabled John Berger to judge that "the Cubist formula presupposed...for the first time in history, man living unalienated from nature."84 Einstein and Minkowski also bespoke the time revolt context with the well-known scrapping of the Newtonian universe based on absolute time and space. In music, Arnold Schoënberg liberated dissonance from the prevailing false positivity's restraints, and Stravinsky explicitly attacked temporal limitations in a variety of new ways, as did Proust, Joyce,85 and others in literature. All modes of expression, according to Donald Lowe, "rejected the linear perspective of visuality and Archimedean reason, in that crucial decade of 1905-19151"86

In the 1920s Heidegger emphasized time as the central concept for contemporary metaphysics and as forming the essential structure of subjectivity. But the devastating impact of the war had deeply altered the sense of possibilities within social reality. Being and Time (1927), in fact, far from questioning time, surrendered to it completely as the only vantage that allows understanding of being. Related, in the parallel provided by Adorno, is "the trick of military command, which dressed up imperative in the guise of a predicative sentence...Heidegger, too, cracks the whip when he italicizes the auxiliary verb in the sentence, 'Death is.'"87

Indeed, for almost forty years after World War I the anti-time spirit was essentially suppressed. By the 1930s, one could still find signs of it in, say, the Surrealist movement, or novels of Aldous Huxley,88 but predominant was the renewed rush of technology and domination, as reflected by Katayev's Five-Year-Plan novel Time, Forward! or the bestial deformation expressed in the literally millenarian symbol, the Thousand Year Reich.

Nearer to our contemporary situation, a restive awareness of time began to re-emerge as a new round of contestation neared. In the mid-1950s the scientist N. J. Berrill interrupted a

fairly dispassionate book to comment on the predominant desire in society "to get from nowhere to nowhere in nothing flat," observing, "And still a minute can embrace eternity and a month be empty of meaning." Still more startling, he cried out that "For a long time I have felt trapped in time, like a prisoner searching for some sense of escape." Perhaps an unlikely quarter from which to hear such an articulation, but another man of science made a similar statement forty years before, just as World War I was about to quell insurgence for decades; Wittgenstein noted, "Only a man who lives not in time but in the present is happy."

Children, of course, live in a now and want their gratification now, if we are looking for subjects for the idea that only the present can be total. Alienation in time, the beginning of time as an alien "thing," begins in early infancy, as early as the maternity ward, though Joost Meerloo is correct that "With every trauma in life, every new separation, the awareness of time grows."91 Raoul Vaneigem supplied the conscious element, outlining perfectly the function of schooling: "The child's days escape adult time; their time is swollen by subjectivity, passion, dreams haunted by reality. Outside, the educators look on, waiting, watch in hand, till the child joins and fits the cycle of the hours"92 The levels of conditioning reflect, of course, the dimensions of a world so emptied, so exquisitely alienated that time has completely robbed us of the present. "Every passing second drags me from the moment that was to the moment that will be. Every second spirits me away from myself; now never exists."93

The repetitious, routine nature of industrial life is the obvious product of time and technology.94 An important aspect of time-less huntergatherer life was the unique, sporadic quality of its activities, rather than the repetitive; 95 numbers and time apply to the quantitative, not the qualitative. In this regard Richard Schlegel judged that if events were always novel, not only would order and routine be impossible, but so would notions of time itself 96

In Beckett's play, Waiting for Godot, the two main characters receive a visitor, after which one of them sighs, "Well, at least it helped to pass the time." The other replies, "Nonsense, time would have passed anyway."97 In this prosaic exchange the basic horror of modern life is plumbed. The meta-presence of time is by this time felt as a heavily oppressive force, standing over its subjects quite anonymously. Very apropos is this summing up by George Morgan: "A fretful busyness to 'kill time' and restless movement from novelty to novelty bury an ever-present sense of futility and vacuousness. In the midst of his endless achievements, modern man is losing the substance of human life."98

Loren Eisely once described "a feeling of inexplicable terror," as if he and his companion, who were examining a skull, were in the path of "a torrent that was sweeping everything to destruction." Understanding Eisely's sensation completely, his friend paraphrased him as saying, "to know time is to fear it, and to know civilized time is to be terror-stricken." Given the history of time and our present plight in it, it would be hard to imagine a more prescient bit of communication.

In the 1960s Robert Lowell gave succinct expression to the extremity of the alienation of time:

I am learning to live in history. What is history? What you cannot touch. 100

Fortunately, also in the '60s, many others were beginning the *un*learning of how to live in history, as evidenced by the shedding of wristwatches, the use of psychedelic drugs, and paradoxically perhaps, by the popular single-word slogan of the French insurrectionaries of May 1968—"Quick!" The element of time refusal in the revolt of the '60s was strong and there are signs—such as the revolt against work—that it continues to deepen even as it contends with extreme new spatializations of time.

Since Marcuse wrote of "the alliance between time and the order of repression," ¹⁰¹ and Norman O. Brown on the sense of time or history as a function of repression, ¹⁰² the vividness of the connection has powerfully grown.

Christopher Lasch, in the late '70s, noticed that "A profound shift in our sense of time has transformed work habits, values, and the definition of success."103 And if work is being refused as a key component of time, it is also becoming obvious how consumption gobbles up time alive. Today's perfect spatial symbol of the latter is the Pac-Man video game figure, which literally eats up space to kill time.104

As with Aldous Huxley's Mr. Propter, millions have come to find time "a thing intrinsically nightmarish."105 A fixation with age and the pro-longevity movement, as discussed by Lasch and others, are two signs of its torment. Adorno once said, "As the subjects live less, death grows more precipitous, more terrifying."106 There seems to be a new generation among the young virtually every three or four years, as time, growing more palpable, has accelerated since the '60s. Science has provided a popular reflection of time resistance in at least two phenomena; the widespread appeal of anti-time concepts more or less loosely derived from physical theory, such as black holes, time warps, spacetime singularities and the like, and the comforting appeal of the "deep time" of the so-called geological romances, such as John McPhee's Basin and Range (1981).

When Benjamin assayed that "The concept of the historical progress of mankind cannot by sundered from the concept of its progression through a homogenous time,"107 he called for a critique

of both, little realizing how resonant this call might someday become. Still less, of course, could Goethe's dictum that "No man can judge history but one who has himself experienced history" have been foreseen to apply in such a wholesale way as it does now, with time the most real and onerous dimension. The project of annulling time and history will have to be developed as the only hope of human liberation.

Of course, there is no dearth of the wise who continue to assert that consciousness itself is impossible without time and its spatialization, 109 overlooking somehow an overwhelmingly massive period of humanity's existence. Some concluding words from William Morris's News from Nowhere are a fitting hope in reply to such sages of domination: "In spite of all the infallible maxims of your day there is yet a time of rest in store for the world, when mastery has changed into fellowship." 110

ENDNOTES

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- 3. Guy Debord, Society of the Spectacle (Detroit, 1977), thesis 125.
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- 7. Herbert Marcuse, One-Dimensional Man (Boston, 1964), p. 326.
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- 11. Jacquetta Hawks, Man on Earth (London, 1954), p. 13.
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- 1978) p. 328.
- 22. Mircea Eliade, Shamanism (Princeton, 1964), pp. 508, 486.
- 23. Loren Eisely, *The Invisible Pyramid* (New York, 1970), p. 113.
- 24. Claude Lévi-Strauss, Structural Anthropology (New York, 1976), p. 28.
- 25. Grinnell, op. cit., p. 17.
- 26. Grahame Clark and Stuart Piggott, Prehistoric Societies (New York, 1965), p. 43.
- 27. Erich Kahler, Man the Measure (New York, 1943), p. 39.
- 28. Leslie Paul, Nature Into History (London, 1957), p. 179.
- 29. Kahler, op. cit., p. 40.
- 30. Roderick Seidenberg, Posthistoric Man (Chapel Hill, 1950), p. 21.
- 31. Arnold Gehlen, Man in the Age of Technology (New York, 1980), p. 13.
- 32. Cited by Kahler, op. cit., p. 44.
- 33. Cited by Adolph E. Jensen, Myth and Cult Among Primitive Peoples (Chicago, 1963), p. 31.
- 34. Émile Durkheim, Elementary Forms of Religious Life (New York, 1965), p.22.
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- 36. Elman Service, The Hunters (Englewood Cliffs, N. J., 1966) pp. 90-81. Recent work seems to bear out this picture; for example, John Nance, The Gentle Tasaday: A Stone Age People in the Philippine Rain Forest (New

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- 37. Perhaps especially Sigmund Freud, Civilization and Its Discontents (London, 1949).
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- 39. Horkheimer and Adorno, op. cit. p. 14
- 40. Morton Fried, "Evolution of Social Stratification," from Stanley Diamond, ed., Culture in History (New York, 1960), p. 715.
- 41. Gale E. Christianson, *The Wild Abyss* (New York, 1978), p. 20.
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- 45. Richard Glasser, *Primitive Time-Reckoning* (Manchester, 1972), p. 6.
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- 47. William Irwin Thompson, *The Time Falling Bodies Take to Light: Mythology, Sexuality and the Origins of Culture* (New York, 1981), p. 211. Walter Benjamin's well-known "There is never a document of civilization which is not at the same time a document of barbarism," could be said to apply first and foremost to the calendar.
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- 61. Yi-Fu Tuan, Space and Place (Minneapolis, 1977), p. 123.
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- 66. Mumford, Technics and Civilization, op. cit., p. 14.
- 67. Marx to Engles, January 28, 1863, The Letters of Karl Marx (Englewood Cliffs, N. J., 1979) p. 168.
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- 69. Arnold Cohen, Man in the Age of Technology (New York, 1980), p. 94.
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- 83. Raymond Klibansky, "The Philosophic Character of History," in Raymond Klibansky and H. J. Paton, editors, Philosophy and History: The Ernst Cassirer Festschrift (New York, 1963), p. 330.
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- 85. "History is a nightmare from which I am trying to awaken," James Joyce, *Ulysses* (New York, 1961), p. 34.
- 86. Donald M. Lowe, *History of Bourgeois Perception* (Chicago, 1982), p. 117.
- 87. Theodor W. Adorno, *The Jargon of Authenticity* (Evanston, Ill., 1973), p. 88.
- 88. For example, Huxley's After Many a Summer Dies the Swan (New York, 1939) and Time Must Have a Stop (New York, 1944).
- 89. N. J. Berrill, *Man's Emerging Mind* (New York, 1955), p. 163-4.
- 90. Ludwig Wittgenstein, *Notebooks*, 1914-1916 (Chicago, 1979), p. 74e.
- 91. Joost A. M. Meerloo, *The Two Faces of Man* (New York, 1954), p. 23.
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TIME AND ITS DISCONTENTS

DIMENSION OF TIME SEEMS TO BE attracting great notice, to judge from the number of recent movies that focus on it, such as Back to the Future, Terminator, Peggy Sue Got Married, etc. Stephen Hawking's A Brief History of Time (1989) was a best-seller and became, even more surprisingly, a popular film. Remarkable, in addition to the number of books that deal with time, are the larger number which don't, really, but which feature the word in their titles nonetheless, such as Virginia Spate's The Color of Time: Claude Monet (1992). Such references have to do, albeit indirectly, with the sudden, panicky awareness of time, the frightening sense of our being tied to it. Time is increasingly a key manifestation of the estrangement and humiliation that characterize modern existence. It illuminates the entire, deformed landscape and will do so ever more harshly until this landscape and all the forces that shape it are changed beyond recognizing.

This contribution to the subject has little to do with time's fascination for film-makers or TV producers, or with the current academic interest in geologic conceptions of time, the history of clock technology and the sociology of time, or with personal observations and counsels on its use. Neither aspects nor excesses of time deserve as much attention as time's inner meaning and logic. For despite the fact that time's perplexing character has become, in John Michon's estimation, "almost an intellectual obsession" (1988), society is plainly incapable of dealing with it.

With time we confront a philosophical enigma, a psychological mystery, and a puzzle of logic. Not surprisingly, considering the massive reification involved, some have doubted its existence since humanity began distinguishing "time itself" from visible and tangible changes in the world. As Michael Ende (1984) put it: "There is in the world a great and yet ordinary secret. All of us are part of it, everyone is aware of it, but very few ever think of it. Most of us just accept it and never wonder over it. This secret is time."

Just what is "time"? Spengler declared that no one should be allowed to ask. The physicist Richard Feynman (1988) answered, "Don't even ask me. It's just too hard to think about." Empirically as much as in theory, the laboratory is powerless to reveal the flow of time, since no instrument exists that can register its passage. But why do we have such a strong sense that time does pass, ineluctably and in one particular direction, if it really doesn't? Why does this "illusion" have such a hold over us? We might just as well ask why alienation has such a hold over us. The

passage of time is intimately familiar, the concept of time mockingly elusive; why should this appear bizarre, in a world whose survival depends on the mystification of its most basic categories?

We have gone along with the substantiation of time so that it seems a fact of nature, a power existing in its own right. The growth of a sense of time—the acceptance of time—is a process of adaptation to an ever more reified world. It is a constructed dimension, the most elemental aspect of culture. Time's inexorable nature provides the ultimate model of domination.

The further we go in time the worse it gets. We inhabit an age of the disintegration of experience, according to Adorno. The pressure of time, like that of its essential progenitor, division of labor, fragments and disperses all before it. Uniformity, equivalence, separation are byproducts of time's harsh force. The intrinsic beauty and meaning of that fragment of the world that is not-yet-culture moves steadily toward annihilation under a single cultures-wide clock. Paul Ricoeur's assertion (1985) that "we are not capable of producing a concept of time that is at once cosmological, biological, historical and individual," fails to notice how they are converging.

Concerning this "fiction" that upholds and accompanies all the forms of imprisonment, "the world is filled with propaganda alleging its existence," as Bernard Aaronson (1972) put it so well. "All awareness," wrote the poet Denise Levertov (1974), "is an awareness of time," showing just how deeply alienated we are in time. We have become regimented under its empire, as time and alienation continue to deepen their intrusion, their debasement of everyday life. "Does this mean," as David Carr (1988) asks, "that the 'struggle' of existence is to overcome time itself?" It may be that exactly this is the last enemy to be overcome.

In coming to grips with this ubiquitous yet phantom adversary, it is somewhat easier to say what time is not. It is not synonymous, for fairly obvious reasons, with change. Nor is it sequence, or order of succession. Pavlov's dog, for instance, must have learned that the sound of the bell was followed by feeding; how else could it have been conditioned to salivate at that sound? But dogs do not possess time consciousness, so before and after cannot be said to constitute time.

Somewhat related are inadequate attempts to account for our all but inescapable sense of time. The neurologist Gooddy (1988), rather along the lines of Kant, describes it as one of our "subconscious assumptions about the world." Some have described it, no more helpfully, as a product of the imagination, and the philosopher J. J. C. Smart (1980) decided that it is a feeling that "arises out of metaphysical confusion." McTaggart (1908), F. H. Bradley (1930), and Dummett (1978) have been among 20th century thinkers who have decided against the existence

of time because of its logically contradictory features, but it seems fairly plain that the presence of time has far deeper causes than mere mental confusion

There is nothing even remotely similar to time. It is as unnatural and yet as universal as alienation. Chacalos (1988) points out that the present is a notion just as puzzling and intractable as time itself. What is the present? We know that it is always now; one is confined to it, in an important sense, and can experience no other "part" of time. We speak confidently of other parts, however, which we call "past" and "future." But whereas things that exist in space elsewhere than here continue to exist, things that don't exist now, as Sklar (1992) observes, don't really exist at all.

Time necessarily flows; without its passage there would be no sense of time. Whatever flows, though, flows with respect to time. Time therefore flows with respect to itself, which is meaningless owing to the fact that nothing can flow with respect to itself. No vocabulary is available for the abstract explication of time apart from a vocabulary in which time is already presupposed. What is necessary is to put all the givens into question. Metaphysics, with a narrowness that division of labor has imposed from its inception, is too narrow for such a task.

What causes time to flow, what is it that moves it toward the future? Whatever it is, it must be beyond our time, deeper and more powerful. It

must depend as Conly (1975) had it, "upon elemental forces which are continually in operation."

William Spanos (1987) has noted that certain Latin words for culture not only signify agriculture or domestication, but are translations from Greek terms for the spatial image of time. We are, at base, "time-binders", in Alfred Korzybski's lexicon (1948); the species, due to this characteristic, creates a symbolic class of life, an artificial world. Time-binding reveals itself in an "enormous increase in the control over nature." Time becomes real because it has consequences, and this efficacy has never been more painfully apparent.

Life, in its barest outline, is said to be a journey through time; that it is a journey through alienation is the most public of secrets. "No clock strikes for the happy one," says a German proverb. Passing time, once meaningless, is now the inescapable beat, restricting and coercing us, mirroring blind authority itself. Guyau (1890) determined the flow of time to be "the distinction between what one needs and what one has," and therefore "the incipience of regret." Carpe diem, the maxim counsels, but civilization forces us always to mortgage the present to the future.

Time aims continually toward greater strictness of regularity and universality. Capital's technological world charts its progress by this, could not exist in its absence. "The importance of time," wrote Bertrand Russell (1929), lies "rather

in relation to our desires than in relation to truth." There is a longing that is as palpable as time has become. The denial of desire can be gauged no more definitively than via the vast construct we call time

Time, like technology, is never neutral; it is, as Castoriadis (1991) rightly judged, "always endowed with meaning." Everything that commentators like Ellul have said about technology, in fact, applies to time, and more deeply. Both conditions are pervasive, omnipresent, basic, and in general as taken for granted as alienation itself. Time, like technology, is not only a determining fact but also the enveloping element in which divided society develops. Similarly, it demands that its subjects be painstaking, "realistic", serious, and above all, devoted to work. It is autonomous in its overall aspect, like technology; it goes on forever of its own accord.

But like division of labor, which stands behind and sets in motion time and technology, it is, after all, a socially learned phenomenon. Humans, and the rest of the world, are synchronized to time and its technical embodiment, rather than the reverse. Central to this dimension—as it is to alienation per se-is the feeling of being a helpless spectator. Every rebel, it follows, also rebels against time and its relentlessness. Redemption must involve, in a very fundamental sense, redemption from time.

TIME AND THE SYMBOLIC WORLD

"Time is the accident of accidents," according to Epicurus. Upon closer examination, however, its genesis appears less mysterious. It has occurred to many, in fact, that notions such as "the past," "the present," and "the future" are more linguistic than actual or physical. The neo-Freudian theorist Lacan, for example, decided that the time experience is essentially an effect of language. A person with no language would likely have no sense of the passage of time. R. A. Wilson (1980), moving much closer to the point, suggested that language was initiated by the need to express symbolic time. Gosseth (1972) argued that the system of tenses found in Indo-European languages developed along with consciousness of a universal or abstract time. Time and language are coterminous, decided Derrida (1982): "to be in the one is to be in the other." Time is a symbolic construct immediately prior, relatively speaking, to all the others and which requires language for its actualization

Paul Valéry (1962) referred to the fall of the species into time as signalling alienation from nature; "by a sort of abuse, man creates time," he wrote. In the timeless epoch before this fall, which constituted the overwhelming majority of our existence as humans, life, as has often been said, had a rhythm but not a progression. It was the state when the soul could "gather in

the whole of its being," in Rousseau's words, in the absence of temporal strictures, "where time is nothing to the soul." Activities themselves, usually of a leisurely character, were the points of reference before time and civilization; nature provided the necessary signals, quite independent of "time". Humanity must have been conscious of memories and purposes long before any explicit distinctions were drawn among past, present, and future (Fraser, 1988). Furthermore, as the linguist Whorf (1956) estimated, "preliterate ['primitive'] communities, far from being subrational, may show the human mind functioning on a higher and more complex plane of rationality than among civilized men."

The largely hidden key to the symbolic world is time; indeed it is at the origin of human symbolic activity. Time thus occasions the first alienation, the route away from aboriginal richness and wholeness. "Out of the simultaneity of experience, the event of Language," says Charles Simic (1971), "is an emergence into linear time." Researchers such as Zohar (1982) consider faculties of telepathy and precognition to have been sacrificed for the sake of evolution into symbolic life. If this sounds far-fetched, the sober positivist Freud (1932) viewed telepathy as quite possibly "the original archaic means through which individuals understand one another." If the perception and apperception of time relate to the very essence of cultural life (Gurevich 1976), the

advent of this time sense and its concomitant culture represent an impoverishment, even a disfigurement, by time.

The consequences of this intrusion of time, via language, indicate that the latter is no more innocent, neutral, or assumption-free than the former. Time is not only, as Kant said, at the foundation of all our representations, but, by this fact, also at the foundation of our adaptation to a qualitatively reduced, symbolic world. Our experience in this world is under an all-pervasive pressure to be representation, to be almost unconsciously degraded into symbols and measurements. "Time", wrote the German mystic Meister Eckhart, "is what keeps the light from reaching us."

Time awareness is what empowers us to deal with our environment symbolically; there is no time apart from this estrangement. It is by means of progressive symbolization that time becomes naturalized, becomes a given, is removed from the sphere of conscious cultural production. "Time becomes human in the measure to which it becomes actualized in narrative," is another way of putting it (Ricoeur 1984). The symbolic accretions in this process constitute a steady throttling of instinctive desire; repression develops the sense of time unfolding. Immediacy gives way, replaced by the mediations that make history possible language in the forefront.

One begins to see past such banalities as "time is an incomprehensible quality of the given world" (Sebba 1991). Number, art, religion make their appearances in this "given" world, disembodied phenomena of reified life. These emerging rites, in turn, Gurevitch (1964) surmises, lead to "the production of new symbolic contents, thus encouraging time leaping forward." Symbols, including time, of course, now have lives of their own, in this cumulative, interacting progression. David Braine's The Reality of Time and the Existence of God (1988) is illustrative. It argues that it is precisely time's reality which proves the existence of God; civilization's perfect logic.

All ritual is an attempt, through symbolism, to return to the timeless state. Ritual is a gesture of abstraction from that state, however, a false step that only leads further away. The "timelessness" of number is part of this trajectory, and contributes much to time as a fixed concept. In fact, Blumenberg (1983) seems largely correct in assaying that "time is not measured as something that has been present all along; instead it is produced, for the first time, by measurement." To express time we must, in some way, quantify it; number is therefore essential. Even where time has already appeared, a slowly more divided social existence works toward its progressive reification only by means of number. The sense of passing time is not keen among tribal peoples, for example, who do not mark it with calendars or clocks.

Time: an original meaning of the word in ancient Greek is division. Number, when added

to time, makes the dividing or separating that much more potent. The non-civilized often have considered it "unlucky" to count living creatures, and generally resist adopting the practice (e.g. Dobrizhoffer 1822). The intuition for number was far from spontaneous and inevitable, but "already in early civilizations," Schimmel (1992) reports, "one feels that numbers are a reality having as it were a magnetic power field around them." It is not surprising that among ancient cultures with the strongest emerging senses of time—Egyptian, Babylonian, Mayan—we see numbers associated with ritual figures and deities; indeed the Mayans and Babylonians both had number gods (Barrow 1992).

Much later the clock, with its face of numbers, encouraged society to abstract and quantify the experience of time still further. Every clock reading is a measurement that joins the clock watcher to the "flow of time." And we absently delude ourselves that we know what time is because we know what time it is. If we did away with clocks, Shallis (1982) reminds us, objective time would also disappear. More fundamentally, if we did away with specialization and technology, alienation would be banished.

The mathematizing of nature was the basis for the birth of modern rationalism and science in the West. This had stemmed from demands for number and measurement in connection with similar teachings about time, in the service of mercantile capitalism. The continuity of number and time as a geometrical locus were fundamental to the Scientific Revolution, which projected Galileo's dictum to measure all that is measurable and make measurable that which is not. Mathematically divisible time is necessary for the conquest of nature, and for even the rudiments of modern technology.

From this point on, number-based symbolic time became crushingly real, an abstract construction "removed from and even contrary to every internal and external human experience" (Syzamosi 1986). Under its pressure, money and language, merchandise and information have become steadily less distinguishable, and division of labor more extreme.

To symbolize is to express time consciousness, for the symbol embodies the structure of time (Darby 1982). Clearer still is Meerloo's formulation: "To understand a symbol and its development is to grasp human history in a nutshell." The contrast is the life of the non-civilized, lived in a capacious present that cannot be reduced to the single moment of the mathematical present. As the continual now gave way to increasing reliance upon systems of significant symbols (language, number, art, ritual, myth) dislodged from the now, the further abstraction, history, began to develop. Historical time is no more inherent in reality, no less an imposition on it, than the earlier, less choate forms of time.

In a slowly more synthetic context, astronomical observation is invested with new meanings. Once pursued for its own sake, it comes to provide the vehicle for scheduling rituals and coordinating the activities of complex society. With the help of the stars, the year and its divisions exist as instruments of organizational authority (Leach 1954). The formation of a calendar is basic to the formation of a civilization. The calendar was the first symbolic artifact that regulated social behavior by keeping track of time. And what is involved is not the control of time but its opposite: enclosure by time in a world of very real alienation. One recalls that our word comes from the Latin calends, the first day of the month, when business accounts had to be settled.

TIME TO PRAY TIME TO WORK

"No time is entirely present," said the Stoic Chrysippus, and meanwhile the concept of time was being further advanced by the underlying Judeo-Christian tenet of a linear, irreversible path between creation and salvation. This essentially historical view of time is the very core of Christianity; all the basic notions of measurable, one-way time can be found in St. Augustine's (fifth century) writings. With the spread of the new religion the strict regulation of time, on a practical plane, was needed to help maintain the

discipline of monastic life. Bells summoning the monks to prayer eight times daily were heard far beyond the confines of the cloister, and thus a measure of time regulation was imposed on society at large. The population continued to exhibit "une vaste indiffrance au temps" throughout the feudal era, according to Marc Bloch (1940), but it is no accident that the first public clocks adorned cathedrals in the West. Worth noting in this regard is the fact that the calling of precise prayer times became the chief externalization of medieval Islamic belief

The invention of the mechanical clock was one of the most important turning points in the history of science and technology; indeed of all human art and culture (Synge 1959). The improvement in accuracy presented authority with enhanced opportunities for oppression. An early devotee of elaborate mechanical clocks, for example, was Duke Gian Galeazzo Visconti, described in 1381 as "a sedate but crafty ruler with a great love of order and precision" (Fraser 1988). As Weizenbaum (1976) wrote, the clock began to create "literally a new reality...that was and remains an impoverished version of the old one"

A qualitative change was introduced. Even when nothing was happening, time did not cease to flow. Events, from this era on, are put into this homogeneous, objectively measured, moving envelope—and this unilinear progression incited resistance. The most extreme were the chiliast, or millenarian, movements, which appeared in various parts of Europe from the 14th into the 17th centuries. These generally took the form of peasant risings which aimed at recreating the primal egalitarian state of nature and were explicitly opposed to historical time. These utopian explosions were quelled, but remnants of earlier time concepts persisted as a "lower" stratum of folk consciousness in many areas.

During the Renaissance, domination by time reached a new level as public clocks now tolled all twenty-four hours of the day and added new hands to mark the passing seconds. A keen sense of time's all-consuming presence is the great discovery of the age, and nothing portrays this more graphically than the figure of Father Time. Renaissance art fused the Greek god Kronos with the Roman god Saturn to form the familiar grim deity representing the power of Time, armed with a fatal scythe signifying his association with agriculture/domestication. The Dance of Death and other medieval memento mori artifacts preceded Father Time, but the subject is now time rather than death.

The seventeenth century was the first in which people thought of themselves as inhabiting a particular century. One now needed to take one's bearings within time. Francis Bacon's *The Masculine Birth of Time* (1603) and *A Discourse Concerning a New Planet* (1605) embraced the deepening dimension and revealed how a

heightened sense of time could serve the new scientific spirit. "To choose time is to save time," he wrote, and "Truth is the daughter of time." Descartes followed, introducing the idea of time as limitless. He was one of the first advocates of the modern idea of progress, closely related to that of unbounded linear time, and characteristically expressing itself in his famous invitation that we become "masters and possessors of nature."

Newton's clockwork universe was the crowning achievement of the Scientific Revolution in the seventeenth century, and was grounded in his conception of "Absolute, true and mathematical time, of itself and from its own nature, flowing equably without relation to anything eternal." Time is now the grand ruler, answering to no one, influenced by nothing, completely independent of the environment: the model of unassailable authority and perfect guarantor of unchanging alienation. Classical Newtonian physics in fact remains, despite changes in science, the dominant, everyday conception of time.

The appearance of independent, abstract time found its parallel in the emergence of a growing, formally free working class forced to sell its labor power as an abstract commodity on the market. Prior to the coming of the factory system but already subject to time's disciplinary power, this labor force was the inverse of the monarch Time: free and independent in name only. In Foucault's judgment (1973), the West had become a "carceral society" from this point on. Perhaps more directly to the point is the Balkan proverb, "A clock is a lock."

In 1749 Rousseau threw away his watch, a symbolic rejection of modern science and civilization. Somewhat more in the dominant spirit of the age, however, were the gifts of fifty-one watches to Marie Antoinette upon her engagement. The word is certainly appropriate, as people had to "watch" the time more and more; watches would soon become one of the first consumer durables of the industrial era.

William Blake and Goethe both attacked Newton, the symbol of the new time and science, for his distancing of life from the sensual, his reduction of the natural to the measurable. Capitalist ideologue Adam Smith, on the other hand, echoed and extended Newton, by calling for greater rationalization and routinization. Smith, like Newton, labored under the spell of an increasingly powerful and remorseless time in promoting further division of labor as objective and absolute progress.

The Puritans had proclaimed waste of time the first and in principle the deadliest of sins (Weber 1921); this became, about a century later, Ben Franklin's "Time is money." The factory system was initiated by clockmakers and the clock was the symbol and fountainhead of the order, discipline and repression required to create an industrial proletariat.

Hegel's grand system in the early 19th century heralded the "push into time" that is History's momentum; time is our "destiny and necessity," he declared. Postone (1993) noted that the "progress" of abstract time is closely tied to the "progress" of capitalism as a way of life. Waves of industrialism drowned the resistance of the Luddites; appraising this general period, Lyotard (1988) decided that "the illness of time was now incurable."

An increasingly complex class society requires an ever larger array of time signals. Fights against time, as Thompson (1967) and Hohn (1984) have pointed out, gave way to struggles over time; resistance to being yoked to time and its inherent demands was defeated in general, replaced, typically, by disputes over the fair determination of time schedules or the length of the work day. (In an address to the First International (July 28, 1868), Karl Marx advocated, by the way, age nine as the time to begin work.)

The clock descended from the cathedral, to court and courthouse, next to the bank and railway station, and finally to the wrist and pocket of each decent citizen. Time had to become more "democratic" in order to truly colonize subjectivity. The subjection of outer nature, as Adorno and others have understood, is successful only in the measure of the conquest of inner nature. The unleashing of the forces of production, to put it another way, depended on time's victory

in its long-waged war on freer consciousness. Industrialism brought with it a more complete commodification of time, time in its most predatory form yet. It was this that Giddens (1981) saw as "the key to the deepest transformations of day-to-day social life that are brought about by the emergence of capitalism."

"Time marches on," as the saying goes, in a world increasingly dependent on time and a time increasingly unified. A single giant clock hangs over the world and dominates. It pervades all; in its court there is no appeal. The standardization of world time marks a victory for the efficient/machine society, a universalism that undoes particularity as surely as computers lead to homogenization of thought.

Paul Virilio (1986) has gone so far as to foresee that "the loss of material space leads to the government of nothing but time." A further provocative notion posits a reversal of the birth of history out of maturing time. Virilio (1991), in fact, finds us already living within a system of technological temporality where history has been eclipsed. "...the primary question becomes less one of relations to history than one of relations to time."

Such theoretical flights aside, however, there is ample evidence and testimony as to time's central role in society. In "Time — The Next Source of Competitive Advantage" (July-August, 1988 Harvard Business Review), George Stark, Jr. discusses it as pivotal in the positioning of capital:

"As a strategic weapon, time is the equivalent of money, productivity, quality, even innovation." Time management is certainly not confined to the corporations; Levine's 1985 study of publicly accessible clocks in six countries demonstrated that their accuracy was an exact gauge of the relative industrialization of national life. Paul Adler's January-February, 1993 Harvard Business Review offering, "Time-and-Motion Regained," nakedly champions the neo-Taylorist standardization and regimentation of work: behind the well-publicized "workplace democracy" window dressing in some factories remains the "time-andmotion discipline and formal bureaucratic structures essential for efficiency and quality in routine operations."

TIME IN LITERATURE

It is clear that the advent of writing facilitated the fixation of time concepts and the beginning of history. But as the anthropologist Gooddy (1991) points out, "oral cultures are often only too prepared to accept these innovations." They have already been conditioned, after all, by language itself. McLuhan (1962) discussed how the coming of the printed book, and mass literacy, reinforced the logic of linear time.

Life was steadily forced to adapt. "For now hath time made me his numbering clock," wrote Shakespeare in Richard II. "Time", like "rich", was one of the favorite words of the Bard, a time-haunted figure. A hundred years later, Defoe's *Robinson Crusoe* reflected how little escape from time seemed possible. Marooned on a desert island, Crusoe is deeply concerned with the passage of time; keeping close track of his affairs, even in such a setting, meant above all keeping track of the time, especially as long as his pen and ink lasted.

Northrop Frye (1950) saw the "alliance of time and Western man" as the defining characteristic of the novel. Ian Watt's The Rise of the Novel (1957) likewise focused on the new concern with time that stimulated the novel's emergence in the eighteenth century. As Jonathan Swift told it in Gulliver's Travels (1726), his protagonist never did anything without looking at his watch. "He called it his oracle, and said it pointed out the time for every action of his life." The Lilliputians concluded that the watch was Gulliver's god. Sterne's Tristram Shandy (1760), on the eve of the Industrial Revolution, begins with the mother of Tristram interrupting his father at the moment of their monthly coitus: "Pray, my dear,' quoth my mother, 'have you not forgot to wind up the clock>"

In the nineteenth century Poe satirized the authority of clocks, linking them to bourgeois superficiality and obsession with order. Time is the real subject of Flaubert's novels, according to

Hauser (1956), as Walter Pater (1901) sought in literature the "wholly concrete moment" which would "absorb past and future in an intense consciousness of the present," similar to Joyce's celebration of "epiphanies". In Marius the Epicurean (1909), Pater depicts Marius suddenly realizing "the possibility of a real world beyond time." Meanwhile Swinburne looked for a respite beyond "time-stricken lands" and Baudelaire declared his fear and hatred of chronological time, the devouring foe.

The disorientation of an age wracked by time and subject to the acceleration of history has led modern writers to deal with time from new and extreme points of view. Proust delineated interrelationships among events that transcended conventional temporal order and thus violated Newtonian conceptions of causation. His thirteen-volume A la Recherche du Temps Perdu (1925), usually rendered in English as Remembrance of Things Past, is more literally and accurately translated as Searching for Lost Time. In it he judges that "a minute freed from the order of time has recreated in us...the individual freed from the order of time," and recognizes "the only environment in which one could live and enjoy the essence of things, that is to say, entirely outside time."

Philosophy in the twentieth century has been largely preoccupied with time. Consider the misguided attempts to locate authentic time by thinkers as different as Bergson and Heidegger, or the latter's virtual deification of time. A. A. Mendilow's *Time and the Novel* (1952) reveals how the same intense interest has dominated the novels of the century, in particular those of Joyce, Woolf, Conrad, James, Gide, Mann, and of course, Proust. Other studies, such as Church's *Time and Reality* (1962), have expanded this list of novelists to include, among others, Kafka, Sartre, Faulkner, and Vonnegut.

And of course time-struck literature cannot be confined to the novel. T.S. Eliot's poetry often expressed a yearning to escape time-bound, time-ridden conventionality. "Burnt Norton" (1941) is a good example, with these lines:

Time past and time future
Allow but a little consciousness.
To be conscious is not to be in time.

Samuel Beckett, early in his career (1931), wrote pointedly of "the poisonous ingenuity of Time in the science of affliction." The play Waiting for Godot (1955) is an obvious candidate in this regard, and so is his Murphy (1957), in which time becomes reversible in the mind of the main character. When the clock may go either way, our sense of time, and time itself, vanishes.

THE PSYCHOLOGY OF TIME

Turning to what is commonly called psychology, we again come upon one of the most fundamental questions: Is there really a phenomenon of time that exists apart from any individual, or does it reside only in one's perceptions of it? Husserl, for example, failed to show why consciousness in the modern world seems to inevitably constitute itself in time. We know that experiences, like events of every other kind, are neither past, present nor future in themselves.

Whereas there was little sociological interest in time until the 1970s, the number of studies of time in the literature of psychology has increased rapidly since 1930 (Lauer 1988). Time is perhaps hardest of all to define "psychologically". What is time? What is the experience of time? What is alienation? What is the experience of alienation? If the latter subject were not so neglected the obvious interrelationship would be made clear.

Davies (1977) termed time's passage "a psychological phenomenon of mysterious origin" and concluded (1983), "the secret of mind will only be solved when we understand the secret of time." Given the artificial separation of the individual from society, which defines their field, it is inevitable that such psychologists and psychoanalysts as Eissler (1955), Loewald (1962), Namnum (1972), and Morris (1983) have encountered "great difficulties" in studying time!

At least a few partial insights have been achieved, however. Hartcollis (1983), for instance, noted that time is not only an abstraction but a feeling, while Korzybski (1948) had already taken this further with his observation that "time' is a feeling, produced by conditions of this world..." In all our lives we are "waiting for Godot," according to Arlow (1986), who believed that our experience of time arises out of unfulfilled emotional needs. Similarly, Reichenbach (1956) had termed anti-time philosophies, like religion, "documents of emotional dissatisfaction." In Freudian terms, Bergler and Roheim (1946) saw the passage of time as symbolizing separation periods originating in early infancy. "The calendar is an ultimate materialization of separation anxiety." If informed by a critical interest in the social and historical context, the implications of these undeveloped points could become serious contributions. Confined to psychology, however, they remain limited and even misleading.

In the world of alienation no adult can contrive or decree the freedom from time that the child habitually enjoys—and must be made to lose. Time training, the essence of schooling, is vitally important to society. This training, as Fraser (1984) very cogently puts it, "bears in almost paradigmatic form the features of a civilizing process." A patient of Joost Meerlo (1966) "expressed it sarcastically: 'Time is civilization,' by which she meant that scheduling and meticulousness were

the great weapons used by adults to force the youngsters into submission and servility." Piaget's studies (1946, 1952) could detect no innate sense of time. Rather, the abstract notion of "time" is of considerable difficulty to the young. It is not something they learn automatically; there is no spontaneous orientation toward time (Hermelin and O'Connor 1971, Voyat 1977).

Time and tidy are related etymologically, and our Newtonian idea of time represents perfect and universal ordering. The cumulative weight of this ever more pervasive pressure shows up in the increasing number of patients with time anxiety symptoms (Lawson 1990). Dooley (1941) referred to "the observed fact that people who are obsessive in character, whatever their type of neurosis, are those who make most extensive use of the sense of time...." Pettit's "Anality and Time" (1969) argued convincingly for the close connection between the two, as Meerloo (1966), citing the character and achievements of Mussolini and Eichmann, found "a definite connection between time compulsion and fascistic aggression."

Capek (1961) called time "a huge and chronic hallucination of the human mind"; there are few experiences indeed that can be said to be timeless. Orgasm, LSD, a life "flashing before one's eyes" in a moment of extreme danger...these are some of the rare, evanescent situations intense enough to escape from time's insistence.

Timelessness is the ideal of pleasure, wrote Marcuse (1955). The passage of time, on the other hand, fosters the forgetting of what was and what can be. It is the enemy of eros and deep ally of the order of repression. The mental processes of the unconscious are in fact timeless, decided Freud (1920). "...time does not change them in any way and the idea of time cannot be applied to them." Thus desire is already outside of time. As Freud said in 1932: "There is nothing in the Id that corresponds to the notion of time; there is no recognition of the passage of time."

Marie Bonaparte (1939) argued that time becomes ever more plastic and obedient to the pleasure principle insofar as we loosen the bonds of full ego control. Dreams are a form of thinking among non-civilized peoples (Kracke 1987); this faculty must have once been much more accessible to us. The Surrealists believed that reality could be much more fully understood if we could make the connection to our instinctive, subconscious experiences; Breton (1924), for example, proclaimed the radical goal of a resolution of dream and conscious reality.

When we dream the sense of time is virtually nonexistent, replaced by a sensation of presentness. It should come as no surprise that dreams, which ignore the rules of time, would attract the notice of those searching for liberatory clues, or that the unconscious, with its "storms of impulse" (Stern 1977), frightens those with a stake in the

neurosis we call civilization. Norman O. Brown (1959) saw the sense of time or history as a function of repression; if repression were abolished, he reasoned, we would be released from time. Similarly, Coleridge (1801) recognized in the man of "methodical industry" the origin and creator of time.

In his Critique of Cynical Reason (1987), Peter Sloterdijk called for the "radical recognition of the Id without reservation," a narcissistic self-affirmation that would laugh in the face of morose society. Narcissism has of course traditionally been cast as wicked, the "heresy of self-love." In reality that meant it was reserved for the ruling classes, while all others (workers, women, slaves) had to practice submission and self-effacement (Fine 1986). The narcissist symptoms are feelings of emptiness, unreality, alienation, life as no more than a succession of moments, accompanied by a longing for powerful autonomy and self-esteem (Alford 1988, Grunberger 1979). Given the appropriateness of these "symptoms" and desires it is little wonder that narcissism can be seen as a potentially emancipatory force (Zweig 1980). Its demand for total satisfaction is obviously a subversive individualism, at a minimum.

The narcissist "hates time, denies time" (letter to author, Alford 1993) and this, as always, provokes a severe reaction from the defenders of time and authority. Psychiatrist E. Mark Stern (1977), for instance: "Since time begins beyond one's control one must correspond to its demands.... Courage is the antithesis of narcissism." This condition, which certainly may include negative aspects, contains the germ of a different reality principle, aiming at the non-time of perfection wherein being and becoming are one and including, implicitly, a halt to time.

TIME IN SCIENCE

I'm not a scientist but I do know that all things begin and end in eternity. The Man Who Fell to Earth, Walter Tevis

Science, for our purposes, does not comment on time and estrangement with anywhere near the directness of, say, psychology. But science can be re-construed to shed light on the topic at hand, because of the many parallels between scientific theory and human affairs.

"Time," decided N. A. Kozyrev (1971), "is the most important and the most mysterious phenomenon of Nature. Its notion is beyond the grasp of imagination." Some scientists, in fact, have felt (e.g. Dingle 1966) that "all the real problems associated with the notion of time are independent of physics." Science, and physics in particular, may indeed not have the last word; it is another source of commentary, however, though itself alienated and generally indirect.

Is "physical time" the same as the time of which we are conscious; if not, how does it differ? In physics, time seems to be an undefined basic dimension, as much a taken-for-granted given as it is outside the realm of science. This is one way to remind ourselves that, as with every other kind of thinking, scientific ideas are meaningless outside their cultural context. They are symptoms of and symbol for the ways of living that give rise to them. According to Nietzsche, all writing is inherently metaphorical, even though science is rarely looked at this way. Science has developed by drawing an increasingly sharp separation between inner and outer worlds, between dream and "reality". This has been accomplished by the mathematization of nature, which has largely meant that the scientist proceeds by a method that debars him or her from the larger context, including the origins and significance of his/her projects. Nonetheless, as H. P. Robinson (1964) stated, "the cosmologies which humanity has set up at various times and in various localities inevitably reflect the physical and intellectual environment, including above all the interests and culture of each society."

Subjective time, as P. C. W. Davies pointed out (1981), "possesses apparent qualities that are absent from the 'outside' world and which are fundamental to our conception of reality"principally the "passing" of time. Our sense of separation from the world owes largely to this discrepancy. We exist in time (and alienation),

but time is not found in the physical world. The time variable, though useful to science, is a theoretical construct. "The laws of science," Stephen Hawking (1988) explained, "do not distinguish between past and future." Einstein had gone further than this some thirty years earlier; in one of his last letters, he wrote that "People like us, who believe in physics, know that the distinction between past, present and future is only a stubborn, persistent illusion." But science partakes of society in other ways concerning time, and very deeply. The more "rational" it becomes, the more variations in time are suppressed. Theoretical physics geometrizes time by conceiving it as a straight line, for example. Science does not stand apart from the cultural history of time.

As implied above, however, physics does not contain the idea of a present instant of time that passes (Park 1972). Furthermore, the fundamental laws are not only completely reversible as to the 'arrow of time'—as Hawking noted—but "irreversible phenomena appear as the result of the particular nature of our human cognition," according to Watanabe (1953). Once again we find human experience playing a decisive role, even in this most "objective" realm. Zee (1992) put it this way: "Time is that one concept in physics we can't talk about without dragging in, at some level, consciousness."

Even in seemingly straightforward areas ambiguities exist where time is concerned. While the

complexity of the most complex species may increase, for example, not all species become more complex, prompting J. M. Smith (1972) to conclude that it is "difficult to say whether evolution as a whole has a direction."

In terms of the cosmos, it is argued, "time's arrow" is automatically indicated by the fact that the galaxies are receding away from each other. But there seems to be virtual unanimity that as far as the basics of physics are concerned, the "flow" of time is irrelevant and makes no sense; fundamental physical laws are completely neutral with regard to the direction of time (Mehlberg 1961, 1971, Landsberg 1982, Squires 1986, Watanabe 1953, 1956, Swinburne 1986, Morris 1984, Mallove 1987, D'Espagnant 1989, etc.). Modern physics even provides scenarios in which time ceases to exist and, in reverse, comes into existence. So why is our world asymmetric in time? Why can't it go backward as well as forward? This is a paradox, inasmuch as the individual molecular dynamics are all reversible. The main point, to which I will return later, is that time's arrow reveals itself as complexity develops, in striking parallel with the social world.

The flow of time manifests itself in the context of future and past, and they in turn depend on a referent known as the now. With Einstein and relativity, it is clear that there is no universal present: we cannot say it is "now" throughout the universe. There is no fixed interval at all that is

independent of the system to which it refers, just as alienation is dependent on its context.

Time is thus robbed of the autonomy and objectivity it enjoyed in the Newtonian world. It is definitely more individually delineated, in Einstein's revelations, than the absolute and universal monarch it had been. Time is relative to specific conditions and varies according to such factors as speed and gravitation. But if time has become more "decentralized", it has also colonized subjectivity more than ever before. As time and alienation have become the rule throughout the world, there is little solace in knowing that they are dependent on varying circumstances. The relief comes in acting on this understanding; it is the invariance of alienation that causes the Newtonian model of independently flowing time to hold sway within us, long after its theoretical foundations were eliminated by relativity.

Quantum theory, dealing with the smallest parts of the universe, is known as the fundamental theory of matter. The core of quantum theory follows other fundamental physical theories, like relativity, in making no distinction in the direction of time (Coveny and Highfield 1990). A basic premise is indeterminism, in which the movement of particles at this level is a matter of probabilities. Along with such elements as positrons, which can be regarded as electrons moving backward in time, and tachyons, faster-than-light particles that generate effects and contexts reversing the

temporal order (Gribbin 1979, Lindley 1993), quantum physics has raised fundamental questions about time and causality. In the quantum microworld common acausal relationships have been discovered that transcend time and put into question the very notion of the ordering of events in time. There can be "connections and correlations between very distant events in the absence of any intermediary force or signal" which occur instantaneously (Zohar 1982, Aspect 1982). The eminent American physicist John Wheeler has called attention (1977, 1980, 1986) to phenomena in which action taken now affects the course of events that have already happened.

Gleick (1992) summed up the situation as follows: "With simultaneity gone, sequentiality was foundering, causality was under pressure, and scientists generally felt themselves free to consider temporal possibilities that would have seemed far-fetched a generation before." At least one approach in quantum physics has attempted to remove the notion of time altogether (J. G. Taylor 1972); D. Park (1972), for instance, said, "I prefer the atemporal representation to the temporal one."

The bewildering situation in science finds its match in the extremity of the social world. Alienation, like time, produces ever greater oddities and pressures: the most fundamental questions finally, almost necessarily, emerge in both cases.

St. Augustine's fifth century complaint was that he didn't understand what the measurement of time really consisted of. Einstein, admitting the inadequacy of his comment, often defined time as "what a clock measures." Quantum physics, for its part, posits the inseparability of measurer and what is measured. Via a process physicists don't claim to understand fully, the act of observation or measurement not only reveals a particle's condition but actually determines it (Pagels 1983). This has prompted Wheeler (1984) to ask, "Is everything-including time-built from nothingness by acts of observer-participancy?" Again a striking parallel, for alienation, at every level and from its origin, requires exactly such participation, virtually as a matter of definition.

Time's arrow—irrevocable, one-direction-only time—is the monster that has proven itself more terrifying than any physical projectile. Directionless time is not time at all, and Cambel (1993) identifies time directionality as "a primary characteristic of complex systems." The time-reversible behavior of atomic particles is "generally commuted into behavior of the system that is irreversible," concluded Schlegel (1961). If not rooted in the micro world, where does time come from? Where does our time-bound world come from? It is here that we encounter a provocative analogy. The small scale world described by physics, with its mysterious change into the macro world of complex systems, is analogous to the "primitive"

social world and the origins of division of labor, leading to complex, class-divided society with its apparently irreversible "progress".

A generally held tenet of physical theory is that the arrow of time is dependent on the Second Law of Thermodynamics (e.g. Reichenbach 1956), which asserts that all systems tend toward ever greater disorder or entropy. The past is thus more orderly than the future. Some proponents of the Second Law (e.g. Boltzmann 1866) have found in entropic increase the very meaning of the past-future distinction.

This general principle of irreversibility was developed in the middle decades of the 19th century, beginning with Carnot in 1824, when industrial capitalism itself reached its apparent non-reversible point. If evolution was the century's optimistic application of irreversible time, the Second Law of Thermodynamics was its pessimistic one. In its original terms, it pictured a universe as an enormous heat engine running down, where work became increasingly subject to inefficiency and disorder. But nature, as Toda (1978) noticed, is not an engine, does not work, and is not concerned with "order" or "disorder". The cultural aspect of this theory—namely, capital's fear for its future—is hard to miss.

One hundred and fifty years later, theoretical physicists realize that the Second Law and its supposed explanation of the arrow of time cannot be considered a solved problem (Neeman 1982).

Many supporters of reversible time in nature consider the Second Law too superficial, a secondary law not a primary one (e.g. Haken 1988, Penrose 1989). Others (e.g. Sklar 1985) find the very concept of entropy ill-defined and problematic, and, related to the charge of superficiality, it is argued that the phenomena described by the Second Law can be ascribed to particular initial conditions and do not represent the workings of a general principle (Davies 1981, Barrow 1991). Furthermore, not every pair of events that bear the "afterward" relation the one to the other bear an entropic difference. The science of complexity (with a wider scope than chaos theory) has discovered that not all systems tend toward disorder (Lewin 1992), also contrary to the Second Law. Moreover, isolated systems, in which no exchanges with the environment are allowed, display the Second Law's irreversible trend; even the universe may not be such a closed system. Sklar (1974) points out that we don't know whether the total entropy of the universe is increasing, decreasing, or remaining stationary.

Despite such aporias and objections, a movement toward an "irreversible physics" based on the Second Law is underway, with quite interesting implications. 1977 Nobel Laureate Ilya Prigogine seems to be the most tireless and public advocate of the view that there is an innate unidirectional time at all levels of existence. Whereas the fundamentals of every major scientific theory, as noted, are

neutral with respect to time, Prigogine gives time a primary emphasis in the universe. Irreversibility is for him and his like-minded fellow believers an over-arching primal axiom. In supposedly nonpartisan science, the question of time has clearly become a political matter.

Prigogine (1985), in a symposium sponsored by Honda and promoting such projects as Artificial Intelligence: "Questions such as the origin of life, the origin of the universe, or the origin of matter, can no longer be discussed without recourse to irreversibility." It is no coincidence that non-scientist Alvin Toffler, America's leading cheerleader for a high-tech world, provided an enthusiastic forward for one of the basic texts of the pro-time campaign, Prigogine and Stenger's Order Out of Chaos (1984). Prigogine disciple Ervin Laszlo, in a bid to legitimate and extend the dogma of universally irreversible time, asks whether the laws of nature are applicable to the human world. He soon answers, in effect, his own disingenuous question (1985): "The general irreversibility of technological innovation overrides the indeterminacy of individual points of bifurcation and drives the processes of history in the observed direction from primitive tribes to modern techno-industrial states." How "scientific"! This transposition from the "laws of nature" to the social world could hardly be improved on as a description of time, division of labor, and the mega-machine crushing the autonomy or

"reversibility" of human decision. Leggett (1987) expressed this perfectly: "So it would seem that the arrow of time which appears in the apparently impersonal subject of thermodynamics is intimately related to what we, as human agents, can or cannot do."

It is deliverance from "chaos" which Prigogine and others promise the ruling system, using the model of irreversible time. Capital has always reigned in fear of entropy or disorder. Resistance, especially resistance to work, is the real entropy, which time, history, and progress constantly seek to banish. Prigogine and Stenger (1984) wrote: "Irreversibility is either true on all levels or none." All or nothing, always the ultimate stakes of the game.

Since civilization subjugated humanity we have had to live with the melancholy idea that our highest aspirations are perhaps impossible in a world of steadily mounting time. The more that pleasure and understanding are deferred, moved out of reach—and this is the essence of civilization—the more palpable is the dimension of time. Nostalgia for the past, fascination with the idea of time travel, and the heated quest for increased longevity are some of the symptoms of time sickness, and there seems to be no ready cure. "What does not elapse in time is the lapse of time itself," as Merleau-Ponty (1945) realized.

In addition to the general antipathy at large, however, it is possible to point out some recent specifics of opposition. The Society for the Retardation of Time was established in 1990 and has a few hundred members in four European countries. Less whimsical than it may sound, its members are committed to reversing the contemporary acceleration of time in everyday life, toward the aim of being allowed to live more satisfying lives. Michael Theunissen's Negative Theology of Time appeared in 1991, aimed explicitly at what it sees as the ultimate human enemy. This work has engendered a very lively debate in philosophical circles (Penta 1993), due to its demand for a negative reconsideration of time.

"Time is the one single movement appropriate to itself in all its parts," wrote Merleau-Ponty (1962). Here we see the fullness of alienation in the separated world of capital. Time is thought of by us before its parts; it thus reveals the totality. The crisis of time is the crisis of the whole. Its triumph, apparently well established, was in fact never complete as long as anyone could question the first premises of its being.

Above Lake Silviplana, Nietzsche found the inspiration for *Thus Spake Zarathustra*. "Six thousand feet above men and time..." he wrote in his journal. But time cannot be transcended by means of a lofty contempt for humanity, because overcoming the alienation that it generates is not a solitary project. In this sense I prefer Rexroth's (1968) formulation: "the only Absolute is the Community of Love with which Time ends."

Can we put an end to time? Its movement can be seen as the master and measure of a social existence that has become increasingly empty and technicized. Averse to all that is spontaneous and immediate, time more and more clearly reveals its bond with alienation. The scope of our project of renewal must include the entire length of this joint domination. Divided life will be replaced by the possibility of living completely and wholly—timelessly—only when we erase the primary causes of that division.

We have gone along with the substantiation of time so that it seems a fact of nature, a power existing in its own right. The growth of a sense of time—the acceptance of time—is a process of adaptation to an ever more reified world. It is a constructed dimension, the most elemental aspect of culture. Time's inexorable nature provides the ultimate model of domination.

All ritual is an attempt, through symbolism, to return to the timeless state. Ritual is a gesture of abstraction from that state, however, a false step that only leads further away. The "timelessness" of number is part of this trajectory, and contributes much to time as a fixed concept.

With the help of the stars, the year and its divisions exist as instruments of organizational authority (Leach 1954). The formation of a calendar is basic to the formation of a civilization. The calendar was the first symbolic artifact that regulated social behavior by keeping track of

time. And what is involved is not the control of time but its opposite: enclosure by time in a world of very real alienation.

In the world of alienation no adult can contrive or decree the freedom from time that the child habitually enjoys—and must be made to lose. Time training, the essence of schooling, is vitally important to society. This training, as Fraser (1984) very cogently puts it, "bears in almost paradigmatic form the features of a civilizing process."

TIME SPEAKS

EW THINGS ARE AS PRESENT IN OUR lives as what we refer to as time, and maybe nothing is as elusive, as hard to define. Time seems to rebuff all attempts to dissect it. Of course, it never appears as a raw phenomenon; in no way does it expose itself directly.

Nothing seems more real and unchallengeable than time, but does it really exist? What does measuring time consist of? Does time really pass? J. R. Lucas remarked, "If we are aware of anything we are aware of the passage of time." But what is it made of, this time that passes but is always there?

If time is a kind of flowing river, what would be its banks? What does it flow by? Henri Bergson compared the flow of time to music, a self-sufficient melody that travels past the listener.² But in what way, specifically, does time resemble music?

The most intangible and inexorable question that endures. As Jacob Needleman put it, "Time remains the great incomprehensible problem of life and thought." It is "the great *unsaid* in Western historical thought," according to William Gallois.⁴

Time is nearly universally seen as a basic constituent of human subjectivity, even as the very foundation of conscious experience. Eva Hoffman declared time to be "the fundamental medium and condition of human meanings," the infrastructure of consciousness.⁵

But these judgments may not be valid, depending on the context. They seem true of alienated life-worlds, yet untrue in the somewhat distant past, when time did not seem to register as a dimension or force. Similarly, to assert that time is a constituent element of social life fails to specify in what society this applies. Our estranged societies resonate to such assertions, but neither those assertions or those societies are the only possibilities. I think it is more cogent to observe that time is the pressure to realize ourselves in contexts that prevent that realization.

If time were somehow built into our selfhood as a component, we would be hard-pressed to understand how this "basic" emerged and gained importance through the years. How much it changed after not, seemingly, having been there at all. Time today is very much a thing, continually more reified or objectified in our lives, standing over us.

But at my back I always hear Time's winged chariot hurrying near.

Vladimir Nabokov's childhood memory is apropos: "Initially, I was unaware that time, so boundless at first blush, was a prison."6

There remain a number of grammatically tenseless languages, but time hovers over even these. In the present era, language "unrelentingly invokes [time] as a familiar object." Time is spatialized by naming it and by expressing it through clocks. In this way, time becomes inseparable from its representation. Walter Ong describes one step of this process: "Before writing was deeply interiorized by print, people did not feel themselves situated at every moment of their lives in abstract computed time of any sort."8

Thus language, at some point, is complicit with time, and both of them deny presence. Two aspects of the symbolic, which disallow the unmediated. There is only the symbolic, only representation. That's why there can be no exterior view of time: there is no outside of the symbolic, as Derrida and others have long decreed. Language, like time, "is what constitutes the subject through and through."9

All very true; but not true of an authentic world.

Julia Kristeva determined that "We have no time other than that of our syntax."10 It may be that language established time as a conceptual object; that language created temporality.

Freud's "Negation" (1925h) can be read as linking language and repression. He viewed the unconscious as a timeless realm, a dimension of "shattered" time. 11 At a young age we are taught to recognize time as one more natural, inevitable development in our lives. We are taught time as we are taught language, as we are situated, oriented into symbolic culture. Nabokov dates the birth of his consciousness to his first awareness of time. 12 Virginia Woolf gives us a description of time as domination: "Shredding and slicing, dividing and subdividing, the clocks of Harley Street nibbled at the June day, counselled submission, upheld authority, and pointed out in chorus the supreme advantages of a sense of proportion." 13 It should come as no surprise that children are notoriously averse to becoming time-literate. 14

It is a common indigenous practice to refer to actual events of various kinds rather than to an abstract datum of time.¹⁵ The symbolic essence of number refines time into that which repeats, that which exists outside lived reality-is its own reality. The Algonquin Micmac people resist this temptation and have "no word for hour, minute, or second."16 Very much like Woolf's description is the Algonquin perspective of Evan Pritchard: "Clocks make us worry and split us into pieces."17 Time's oppressive nature can be a stark reality. Eric Powell refers to Franciscan missionaries who ordered the Pueblo people to build churches in their villages and install "bells that became a hated symbol of colonialism. Their presence was intended to impose a Spanish and Christian conception of time."18

For Aboriginal Australians the Dreaming is many things. It is central to life and a deep connection to all of reality. It is eternally present and so cannot be fixed in time. Aboriginal people have no word for time as an abstraction removed from life. W. E. H. Stanner's White Man Got No Dreaming evokes this very well.19 This kind of relative timelessness is under assault. Complex society rules it out. "It is impossible for the [Melanesian] Canaque to grasp time,"20 wrote anthropologist Maurice Leenhardt in the 1920s, before genocide, largely in the form of alcoholism, did them in.

Time appeared only after a certain while, and early on made slow progress. I think it plausible to imagine time beginning to emerge along with nascent hierarchy. We know that hunter-gatherer band society survived for about three million years; it was egalitarian, according to mainstream anthropology. This slowly started to give way with the emergence of division of labor, or specialization. Experts always have effective power over others; shamans exercised authority, for example, eroding the egalitarian ethos.

Clifford Geertz, in "Person, Time and Conduct in Bali," discusses an ensemble of cultural conceptions and rituals designed to render time immovable," enabling people to remain in the present.21 An anxiety must underlie such strategies of resistance. Lévi-Strauss viewed myth as an "instrument for the obliteration of time,"22

and Edmund Leach defined rituals as "machines for eliminating time." But such approaches have not succeeded. Time encroaches as social existence changes—as life becomes more complex, less a matter of equality and sharing.

Time is a symptom of the slippage from a state of presence. This exile from a non-symbolic, unmediated condition may have been the price exacted by language.

It is easier to see, somewhat more recently, how time became the inescapable accomplice of domination. Time as a social category or institution, temporal awareness linked with power relationships. The calendar, for example, is "a technology of time that has proven to be among the most effective instruments for exercising power." It also dissociates us from nature. Time in society has no ultimate reality, apart from claims of legitimacy and accountability by those in power.

Public clocks were the work of the urban bourgeoisie. Advances in timekeeping, including the transition to abstract, measured hours and minutes, mark our progressive subjugation to ever more complex civilization.

Modernity functions under the rule of continuous objective time, with more and more scheduling and time pressure. We are increasingly hurried under its ruthless, globalizing reign. Julie Kristeva found that "We live within a fragmented chronology that has yet to discover a founding concept of its own." And yet its "founding concept" is

all too obvious, mirroring the always advancing control ethos of civilization. Its domesticating essence must include the transcendent rule of time, perfecting our separation from nature and freedom.

Time has perennially interested philosophers, but the topic has never been fully developed. Some thinkers have denied its existence, if only in passing. In his, Physics Aristotle doubted time's reality because its parts do not exist. Two thousand years later, Kant claimed that time is an a priori representation that we impose on the world. Time is "a purely subjective condition of our (human) condition...and in itself, apart from the subject, is nothing."26 Hegel, on the other hand, saw time as a necessary condition for fulfillment of Spirit, History, and the State. Early in his career, Husserl asked rhetorically, "Is it inherently absurd to regard the flow of time as an objective movement?" To which he answered, "Certainly!"²⁷ Walter Benjamin attacked continuous, quantified time in favor of an apocalyptic break from time, especially in his Theses on the Philosophy of History.

Today we experience an endemic shortage of time, as we scramble, hamsters running in our wheels, to keep up with the time of technology. The Machine sets the pace, and even small delays produce undue psychic strain (as increasing road rage incidents attest). In the 18th century Bishop Berkeley declared, "I have no notion of time at

all, only I hear others say that it is infinitely divisible."²⁸ Time can now be divided into attoseconds. 100 attoseconds is as brief, compared to one second, as one second is compared to 300 million years! Time at this level corresponds to the further intensification of domestication, in such projects as nanotechnologies and genetic engineering.

Symbolic time is imposed, as are the more obvious structures of authority. None of these are natural or objective. They come between the world of lived experience and the administered world. Jacob Needleman counseled that "a tranquil heart is never defeated by time."²⁹ But experience itself, that might create and sustain a tranquil heart, is being lost. We need to problematize the great tyranny of time. We need a conspiracy against time and all of its associations and complicities.

July 2017

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A People's History of Civilization