**Cecil G. Helman. Cultural aspects of Time and Ageing.**

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Time is not the same in every culture and every circumstance; our views of ageing also differ.

*“He that idly loses five shillings' worth of time loses five shillings, and might as prudently throw five shillings into the sea. He that loses five shillings, not only loses that sum, but all the advantages that might be made by turning it in dealing, which by the time that a young man becomes old, will amount to a considerable sum of money.” — Benjamin Franklin, 1736.*

Much of the research into ageing—and into ways of extending longevity—has focused on physical phenomena of the human body, particularly at the cellular or molecular level. For a more complete picture, and to discuss the ethical and social implications, this research needs to be placed within much wider social, economic and cultural contexts. Cultural concepts of ageing are closely related to cultural concepts of time—and many different concepts of time have been described. In more traditional agrarian societies, for example, time is often experienced as more cyclical, or rather spiral, as it is both repetitive and slowly advancing. The religions of these regions, especially in parts of Asia (Nakamura, 1966), often incorporate this cyclical view of human experience and may include concepts of reincarnation such as *samsara*—the endless cycle of birth, death and rebirth found in both Buddhism and Hinduism.

By contrast, the Western world's concept of time as linear has been the basis of intellectual and religious thought for many centuries. Joseph Needham (1966) saw this as originating in the Judaeo–Christian worldview, with its sense of time beginning at the *creatio ex nihilo* and ending at the Second Coming, or the coming of the Messiah. Western time was conceived as being directional, advancing and non-repetitive. All human life was a “continuous linear redemptive process”, and the history of the world was seen as “a divine drama enacted on a single stage, with no repeat performances”. This linear sense of time is apparent in the eighteenth century *philosophes*' idea of human progress, the nineteenth century concepts of social evolution, and in the contemporary ideas of developed and developing nations.

The anthropologist Edward T. Hall (1983) has described the predominant form of modern Western time as 'monochronic' time. In this view, time is seen as something tangible, as well as linear. It is conceived of as a ribbon or a road stretching from the past into the future, which is divided into segments called minutes, hours, days, months and years. Within this rigid linear structure, one can only “do one thing at a time”, as time itself flows swiftly past. For Hall, monochronic time—measured by clocks and watches—is a form of external order that originates outside the individual, and which is imposed upon the chaotic lives of humanity. Thus “time is organization”, which is essential for the smooth functioning of a complex industrial society in which the actions of large groups of people need to be coordinated, so that factories, shops, businesses, offices, railways, airlines and traffic flow can all operate on an identical time schedule. Hall sees monochronic time as more 'public' and 'male' time, and more characteristic of bureaucracy, government, business and sport. However, this phenomenon is actually quite recent. In Britain, for example, it was only in the mid-nineteenth century, with the birth of the industrial revolution and the spread of railways, that ownership of watches became more common and clock time spread (Rawlence, 1985). Today, the clock, the watch and the calendar are among the main cultural symbols of Western industrial society.

Despite this, monochronic time is still not uniformly distributed throughout society. Many people live largely outside clock time, especially the young, elderly, unemployed, disabled, depressed or chronically ill. Clock time is also less important at times of leisure, sex, ritual or religious fervour, and there are often differences between the speeded-up time of the city and the slower time of the countryside.

Time in the Western world is also seen as a form of currency or commodity, which can be 'spent', 'wasted', 'saved' or 'given'. It can be 'free', 'spare', 'extra' or 'overtime'. Time can be converted into money, and money into time, and this process can be precisely quantified. Time and work are intimately related: in industrial culture, time, labour, wages and productivity are all linked to one another, with the overall aim of greater productivity, at a lower cost, and in a shorter period of time. In industrialized countries, therefore, there is a tripartite division of the human life cycle, especially among men, into three periods: pre-work (childhood, adolescence, education), work, and post-work (retirement, unemployment or infirmity). By contrast, in many traditional agricultural societies all children are seen as 'trainee adults', and are expected to help in tending to crops or livestock, or caring for younger siblings from very early on; time devoted to work is therefore considered as intrinsic to childhood as to adulthood.

Monochronic time co-exists with 'polychronic' time, which is less linear and less tangible. Here, time is experienced as a 'point' at which relationships, social interactions or events converge, rather than a 'ribbon' or a 'road'. Polychronic people stress the involvement of people and the completion of tasks, transactions or conversations only 'when the time is right', rather than by a strict adherence to pre-set schedules or clock time. This often involves 'doing many things at once', with multiple tasks, responsibilities and ties to other people. Life is experienced as constantly in flux, and not as rigid as in clock time. Hall (1983) describes polychronic time as more 'private' and 'female'. It is common in many parts of the non-Western world—in Zen Buddhism, for example, “time springs from the self, and is not imposed”.

In Western societies, most individuals actually live at the intersection of several different forms of cultural time, both linear and cyclical, that are imposed upon them. Each of these may have major effects on an individual's physiology and psychology, as well as on their behaviour.

*Clock time* is the 24-hour cycle that is regulated by clocks and other timepieces. Exposure begins at birth, with the timing of infant feeding and mealtimes, and then continues throughout life. Later, it is reinforced on a daily basis by environmental time cues such as the background sound of alarm clocks ringing, traffic rush hour, children leaving for school or news bulletins every hour on the radio.

*Developmental time* is the linear model of human development that is imposed on the life path of children and adolescents. It is intrinsic to the concepts of developmental psychology and 'age-appropriate' behaviour, and to definitions of maturity and immaturity. This model dictates the timing of children's developmental milestones, such as the ages at which they ought to walk, talk or learn to read. It also determines when children get immunized, and when they start school. Later on it defines when young people are considered developed enough to vote legally, drive cars, inherit money or have sexual relations. It also defines at what age people are considered to be old. These linear concepts, in some cases, may take little account of individual variations in development.

*Calendrical time* describes the division of the year, based on the natural world—usually the lunar or solar cycles—into days, weeks and months, which includes its recurrent spring, summer, harvest and winter festivals. Modern calendars usually include the year's division into work time and vacation time, and into festivals or special days such as New Year's Day or the summer equinox.

*National time* is specific to an individual nation state, and includes its annual public holidays and celebrations such as Bastille Day in France, or special occasions like the Queen's birthday in the UK. With newly independent nation states, national time—and history—may be seen as beginning on their first day of independence. Significant periods in a nation's history are often coalesced into large blocks of time, such as 'the second Elizabethan Age', or 'the Third Republic'.

*Religious time* is linked to the weekly cycles of Sabbaths and workdays, as well as to the annual feasts, fasts and festivals such as Saints' Days, Christmas, Easter, Ramadan, Yom Kippur or Diwali. It also includes the spiritual time of religious rituals, prayer, meditation and contemplation, events which are experienced by their participants as being 'timeless', or as 'time out of time'. Religions such as Christianity, Judaism and Islam all have their own specific calendars that date from their birth.

*Bureaucratic time* encompasses the time cycle of workplaces and educational institutions, such as the cycle of the academic year and the dates of vacations, as well as 'clocking-in' times at work, the prescribed length of the working day, and the dates of annual reports, annual general meetings, tax returns and office parties. At the individual level, it includes the age at which one can legally begin to work, and the age at which one is expected to retire.

*Social relationship time* is linked to the specific events of an individual's personal social network, such as the dates of birthdays, weddings, anniversaries or memorial days—times when these social relationships must be reinforced by gifts and personal contact.

*Symbolic rebirths* can occur after major points of transition or crises in the life cycle, such as religious conversions—when one is 'born again'—major illnesses or traumatic experiences; major social transitions, such as giving birth, or getting divorced; or migration to another country. In each case, individuals may have the sense of a 'second life' or a 'second biography' within their lifespan, and time may therefore be experienced as 'time before' and 'time after' that major event.

Most models of cultural time usually imply a potential conflict between subjective and objective time ([Fraser, 1966](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1369268/#b2)): between an individual's own sense of time passing, called *kairos* by the ancient Greeks, and the external, standardized time frames imposed on them by society (*chronos*). These models also suggest that sometimes this conflict may negatively affect both the physical and emotional health of the individual. At different points in the calendar, time stress may affect different groups of individuals: students at examination time, accountants at the end of the tax year, businessmen struggling to meet a deadline, motorists trapped in a traffic jam during the morning rush hour.

Despite the power of monochronic time over individual lives, self-perception and identity are not necessarily linked to chronological age. In her study of elderly Americans, for example, Sharon Kaufman found that many of them “do not speak of being old as meaningful in itself, and often don't relate their inner feelings to their chronological age. When old people talk about themselves, they express a sense of self that is ageless—an identity that maintains continuity despite the physical and social changes that come with old age” ([Kaufman, 1986](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1369268/#b6)). One woman of 92 told her that “Whenever I'm walking downtown, and I see my reflection in a store window, I'm shocked by how old it is. I never think of myself that way.”

How do these cultural concepts of time relate to research into increasing human longevity? Although such research aims to extend life expectancy, the meaning of old age, and the status given to the elderly, differ widely between societies—and this needs to be taken into account. In many traditional, non-literate and small-scale societies, knowledge, skills, wisdom and a mastery of the local technology all tend to accumulate in the later years of life. The elders are especially respected as the repositories of inherited wisdom and experience passed down orally from one generation to the next. For that reason, the death of a prominent elder in that society may well be equivalent to a library or a university burning down in our own.

In modern society, however, the situation is rather different, and the elderly tend to have a much lower status. In an inversion of the traditional pattern, it is now the young who often have greater skills and knowledge in certain areas of life than their parents or grandparents. They are more able to absorb and understand the latest technological innovations, and at a much quicker rate, and they also have access to many more outside sources of knowledge than their forebears—via education, books, the media and the internet.

The reduced status of the elderly is also due to the contemporary emphasis on youth, beauty, autonomy and self-control, and the ability to be productive—or reproductive. As Loustaunau & Sobo (1997) put it: “Ageing is unpopular in the United States,” but the same is true of most other industrialized countries. Societies that have entered the information age of computers, artificial intelligence and global communications tend to place an increased cultural importance on the brain, and especially on its cognitive functions—memory, logic and calculation. Normal cognitive function is seen as the sign of a fully integrated and socially acceptable member of society, and thus dementia has become a major public health issue. By contrast, in non-Western societies such as in India, Africa and China, senile dementia appears to be less common or less severe. This may be due either to a lower prevalence of this condition, or to the fact that loss of cognitive skills is not considered a pathology and labelled in the same way as it is in the West, but is seen instead as 'normal' for certain age-groups, and thus treated with greater tolerance.

There are already an increasing number of elderly worldwide. According to the*World Mental Health* report ([Desjarlais et al, 1995](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1369268/%22%20%5Cl%20%22b1)), increased fertility and life expectancy have resulted in both a relative and absolute increase in the elderly population in Africa, Asia and Latin America. Worldwide, the United Nations has estimated that by 2025 there will be 1.2 billion people over the age of 60, 72% of whom will live in developing countries. Furthermore, the 'oldest old', aged 85 or more, are the most rapidly increasing age group among the older population. If the current research on extending longevity is successful, then this proportion may well increase even further. Given the variability in cultural notions of time and ageing, this raises a number of important questions. In the years to come, the answers to these questions will have to come from many different academic disciplines, not only from molecular biology.