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CONCEPTS, THEORIES, & INTRODUCTIONS

Light/life Cycles and Sundials as Memento Mori: Reflections on Time and Place

Luisa Del Giudice[1a]

[1] Independent Scholar, USA

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Folk, Knowledge, Place

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This essay represents a closely entwined meditation, not only on the history and function of a cultural artifact (the sundial) which opposes light to dark, to mark the hours, but foremost, on personal time, scholarly pursuits, and life review. It is a reflection on the cycles of light and darkness (day and night, the seasons of the year), life's corresponding cycles (birth, death), time and legacy, and the places in which we find meaning. Historically, sundials often included *memento mori* (reminders of death) in the form of pictorial and written mottos. The interplay of light and darkness in place produces sensations of the passage of time and, by extension, of the fleetingness and fragility of life. Worldviews related to life, death, and time gave form to proverbial sayings and regional architectures that have proved mobile, in the case of my own family history, moving from Italy to California. The need to ponder our own demise remains urgent, as eternal as marking light and dark, as inevitable as marking life and death.

Introduction

This essay represents a closely entwined meditation, not only on the history and function of a cultural artifact (the sundial) which opposes light to dark, to mark the hours, but foremost, on personal time, scholarly pursuits, and life review. It is a reflection on the cycles of light and darkness (day and night, the seasons of the year), life's corresponding cycles (birth, death), time and legacy, and the places in which we find meaning. An initial version of this essay was presented on the remote island of Svalbard, at the Island Dynamics conference on Darkness, which took place during the polar night, in January of 2019. As Svalbard is the most northerly inhabited place on Earth, it formed an ideal place to contemplate Darkness, Time, and Death. A startling array of approaches to the theme of darkness were there presented, from a wide variety of disciplines that went from literary to scientific, architectural to philosophical, and more besides—as wide a disciplinary horizon as that at a conference on Time in Costa Rica that I had attended and presented at (Del Giudice, 2017) a decade earlier. That conference had been organized by

a luisadg@humnet.ucla.edu; corresponding author

Figure 1. Memento mori painting, mid-17th Century, Frans van Everbroek. https://commons.wikimedia.org/wiki/File:Frans_van_Everbroeck_-_Memento_Mori.jpg

the International Society for the Study of Time, a famously interdisciplinary organization involving scientists, scholars, philosophers, and artists. The two conference themes seem inextricably linked, as the essays resulting from participation in these related conferences provide frequent cross-references.

At the Darkness conference, light and darkness (shadows) was usually discussed in terms of *human* death, with sundials literally and metaphorically tracking time's passing and—as often made explicit in their mottos—functioning as *memento mori* (reminders of death). Sundials often serve as a *literal* equivalent of the iconography of death, formerly ubiquitous on urban landscapes across Europe, with bones, skeletons, and especially skulls predominating. Elaborate 'bone art' composed of the artistically arranged bones of the dead might sometimes grace interior or exterior church walls. Occasionally, full skeletons are depicted engaged in a 'dance of death', a stark reminder of life's brevity and a warning against vanity. In more intimate spaces (or paintings thereof) a skull might be found on a scholar's desk, as a reminder that life is but a shadow, that all things pass, that we are dust, returning to dust (Figure 1).

In some rarer instances, entire landscapes, dark, grotto-like environments, housing boneyards, featuring skull piles, devotional niches, dimly lit by candlelight, might be available for more extensive communing with the dead and with Death. A notable example, in an area of Italy where the cult of the ancestors is particularly strong, is to be found in the Fontanelle Cemetery of Naples, where the skulls (*capuzzelle*) of the *anime pezzentelle* (purgatorial souls) await the prayers of the living, in order to be released from Purgatory (Romanazzi, 2023, August 27). The practice of adopting a skull into one's family—the choice of skull sometimes evoked in a dream—cleaning and polishing it, caring for it, creating a niche for it, and praying for its release (in exchange for some 'grace' or favor), created an intimate rapport with the dead—sometimes known but mostly *not* known to the living in this instance (because they are the unclaimed or unremembered dead)—continued to animate life and aid the living. In many cultures around the world, such meditations on darkness (death, entombment) seem to be in the service of light (vitality, life, salvation). Where the dead are one's own family, veneration of ancestry creates a sense of generational continuity, of life that outlives the mere fact of physical death.

This essay focuses on *one* geographic area: Italy, its diasporic cultures, as well as on my own diasporic family's meditations on life, death, and generational legacies across geographic divides (Italy, Canada, California). Our family did not commune with physical skulls, but the iconography of death had one most unusual presence in the more ancient parts of Terracina (just over 100 km from Naples). My family lived close to the Ancient Roman road flanked with sarcophagi, leading up to Jupiter's Temple on a promontory overlooking a bay redolent of Ulysses' voyages (e.g., San Felice Circeo, Baia d'Ulisse). The same road still leads to the modern-day cemetery, having maintained its function throughout the millennia. Familiarity with death, with the material culture of death, surely has made remembering death a constant within history and culture for many Terracinesi, our family included.

Funerary art and iconography, and the material culture related to time, share unsurprisingly common semantic threads and areas of overlap: skulls, skeletons, winged hourglasses, wilted flowers, *danses macabre*, Grim reapers, and so forth—along with others that are more culturally-specific. In Western tradition, many such images might also be found on the face of sundials (and other time-keeping devices), visually and psychically reinforcing their impact, and their message that time is fleeting, that *tempus fugit* (Figure 2). Further, the imagery and words on horizontal sundials in country villa gardens, or vertical sundials muraled on public buildings or churches, were often *acoustically* reinforced by the ringing of bells from a church bell tower. All of these provided a *collective* experience of marking time, as a sort of 'public service announcement' to meditate on one's moral compass, to use time well, and to think on one's legacy. Christians were thereby called to prayer or mass, while in the Muslim world, mosque dials marked the exact

Figure 2. Sundial on the tower at Andechs Abbey, Starnberg, Bavaria, Germany. https://commons.wikimedia.org/wiki/File:Andechs_Kloster_exterior_03.jpg

hours for the five daily prayer times. Ancient *sententia* were often mediated by the Church for theologically specific discourses, recalling not only that time was fleeting, but affirming the urgency of acting to serve to one's own Christian salvation—especially as the pagan Sun God became progressively construed as the Christian God. Indeed, the Ancient Roman to Christian transition, with respect to sundials and philosophy, tended to also change the nature of the *memento mori* (*Memento Mori*, 2025, July 12). From a Pagan *carpe diem* (seize and enjoy the day), to a Christian moralizing reminder that the time of Judgement was near. Not a call to Bacchus, but to sack cloth and ashes! Sundial mottos, however, and the ability itself to read the hours, required literacies (mathematical and verbal) that put them in the realm of the learned (if even minimally literate), whereas the iconography of time was more widely accessible.

This essay depends strongly on the research and linguistic contributions of my spouse, Edward F. Tuttle, Professor (emeritus) of Romance Philology and Italian Dialectology at UCLA. Of particular help, was his assistance in locating proverbs and understanding etymologies. His contributions to the more personal project of leaving an architectural family legacy, is discussed in the second half of this essay.

Sundials in history

The rather arcane and highly complex scientific field of Gnomonics (from *gnomon*, Greek for *pointer* or *dial*) tells us how to build and use sundials, the history of their morphology, their cultural distribution, as well as the science of their technology. These questions are not wholly germane to our present inquiry. Suffice it to say, however, that before the advent of the mechanical clock, a dizzying array of time-keeping methods that relate to cosmology, were used. As they specifically relate to sundials, these included: sundials with fixed axial gnomon, empirical hour-line marking, equatorial sundials, horizontal sundials, vertical sundials, polar dials, vertical declining dials, reclining dials, declining-reclining dials/declining-inclining dials, spherical sundials, cylindrical, conical, and other non-planar sundials, movable-gnomon sundials, universal equinoctial ring dial, analemmatic sundials, Foster-Lambert dials, altitude-based sundials, human shadows, shepherd's dial (timesticks), ring dials, card dials (Capuchin dials), *navicula*, nodus-based sundials, reflection sundials, multiple dials, diptych (tablet) sundials, multiface dials, prismatic dials, and many other unusual dials, besides (*Sundial*, 2025, August 18). My focus in this essay will be on none of these—although the sundials to which I will refer tend towards the horizontal or vertical sundial—but rather on the sundial *motto* on such sundials, as a means of recalling that death is ever present. It also will address the interplay between written motto and oral tradition (sayings and proverbs) on time, in the specific oral tradition of Terracina, carried forth by my father, Alberto Del Giudice, for whom such sayings provided a strong life orientation (or gnomon).

The sundial's origins are ancient, confirming our collective desire to orient ourselves in time and space with respect to the sun (and stars) (Rohr, 1996; Salvesen, 2025). Ours is a fundamental and innate need to count the hours, for the human mind seems incapable of sustaining itself without some form of time-keeping (cf. prison studies which record madness ensuing from dark and solitary confinement, where no note may be taken of light cycles and hence, the passing of time; Flaherty & Carceral, 2022; Wooley, 2024). Here, we will briefly touch on a few select highlights in that history.

The earliest references to sundials are to shadow monuments (such as standing stones and obelisks), the shadow clocks of Ancient Egypt (Remijsen, 2021), and the 'dial of Ahaz' in the Old Testament (Leitão, 2024). The 2nd Century BCE Roman architect-writer, Vitruvius (1914), lists many dials and shadow clocks in his ancient world, in which the gnomon, as a fixed point

on the quadrant, also determined the cardinal points of urban planning, or road-orientation, via the *cardo* (the North-South axis) and the *decumanus maximus* (the East-West axis). Canonical sundials were in frequent use from the 7th – 14th centuries, and served to indicate the hours of liturgical activities for religious communities, helping define the temporality of sacred space (Hamilton & Spicer, 2005). In the year 1000, in the Baptistry of Florence, we find the first sun-instrument created for scientific purposes, by way of a quadrant on the floor whose center coincides with the rays of the midday sun on the longest day of the year (Bartolini & Pierozzi, 2016). In 1576, Dominican Egnazio Danti gave the sundial its most complete and definitive form, capable of determining the exact midday point, the dates of equinoxes and solstices, and the zenith angle of the sun's rays on each day of the year (Righini Bonelli & Settle, 1979). This astronomical search produced the most celebrated sundial in Bologna in the Basilica of San Petronio, which would later be substituted by the Roman, G. Domenico Cassini in 1655, with the largest sundial in the world, which rises above the forum, 27 meters from the floor, and is 67 meters in length (Bernardi, 2017). Sundials were highly-prized offerings to kings, or might be gifted by a prince to his people. For example, the marble dial on the façade of Santa Maria Novella in Florence records it as a gift from the Grand Duke Cosimo de' Medici to the students of astronomy in 1572. Italian Renaissance scientists seemed to have 'dialed up' the technological aspects (and treatises on) sundials. The practice of inscribing mottoes on sundials seems to have become the norm at about this same time, that is, by the mid-16th Century. But simpler sundials also continued to be used until the end of the 18th Century, such as the *Horihomo* (the 'hours of a man'), which used the casting of a man's shadow on the ground: the wayfarer could use a stick the length of his own body, divided into 12 nicks; by laying the stick on the ground at his feet, aligned with his own shadow, and measuring the time, he kept a number legend in his pocket to calculate the time according to the season.

Speaking with light and shadow

Having briefly reviewed the sundial's history, let us now turn to sundial mottos themselves. Sundial mottos were often self-referential, i.e., focused on their very function, and naming the sun (e.g., 'I only tell of sunny hours'; *Sine sole sileo*, 'without the sun I fall silent') or shadow (*[Pulvis et] umbra sumus* 'We are [dust and] shadow'; *Umbra sicut hominis vita* 'A person's life is like a shadow'; *Vita fugit, sicut umbra* 'Life passes like the shadow'; *Post tenebras spero lucem,* 'I hope for light to follow darkness'). We know that night clocks, moon clocks, and star clocks (or astrolabs) also existed, often for the purpose of navigation. Sometimes the mottos were whimsical and lyrical ('Some tell of storms and showers, I tell of sunny hours'). But predominantly, their tone was admonitory and somber, lending themselves to philosophical musings or religious meanings ('Look at my shadow and you will see your life'). A cursory look at only one list of mottos, records these themes: time flies,

make use of time, human mortality, transience, virtue—very rarely humorous references to living ('Now is the time to drink') (*List of Sundial Mottos*, 2025, July 12). Ancient Romans, throughout their empire had placed sundials on temples, baths, townhouses, country villas, in public places, and on tombs. The practice continued into modern times, inviting reflection on personal and collective life—perhaps even on the rise and fall of civilizations.

Sundial mottos often appeared as literate versions of widely circulating oral proverbial wisdom, or conversely, proverbs could be circular, linked to sentential knowledge with deep roots in ancient Roman culture. Collections of sundial mottoes have been published since the Renaissance (as have proverb collections), right up to modern times (e.g., Gatty, 1872; Hyatt, 1903; Moglia Pavanello, 1988; Paltrinieri, 1997; Stirrup, 1652). Registries of sundials throughout the world, may be consulted, for geographic distribution, and types of time-keeping technology (e.g., North American Sundial Society Registry). Many such recorded mottos have proven particularly time-resistant, the most popular, of course, being: *Tempus fugit, sic carpe diem* ('time flies, hence seize the day'). Lesser known mottos include: *Tempus fugit velut umbra* ('time flees like a shadow'); *Tempus breve est* ('time is brief'); and simply: *Vivere memento* ('remember to live'). The mode itself, of *reading* the hours however, was not readily accessible. Sundials required literacy, both in Latin and/or the vernacular, and numerical literacy. In the Anglo-Saxon world, specialists called *diallers* or *diallists* could help in deciphering sundials.

Sundials essentially speak with light and shadow (since their pointer requires the sun to cast time-marking shadows), and were easily assimilable to more existential discourses around Light and Darkness ˃ Life and Death ˃ Salvation and Damnation. That is, they not only tell us the time of *day* but, the time of *life*. They were ubiquitous in the land of the midday sun: the Meridione, the Mediterranean South (in Italian the sundial is called a *meridiana* = meridian). Furthermore, because sundials relied on the sun itself, they lent themselves to observation of not just hours but also days, seasons, years, and the cosmos itself. Interestingly, Northern sundials tended to be more silent (or wordless), while the Southern ones sententious. Italy features an abundance of sundials, and is particularly rich in sundials accompanied by mottos.

Time mottos and proverbs circulated widely in oral tradition as well. I can attest to the vitality of these sayings in my Italian diaspora experience (in Toronto, in my own case). If there was one person who helped me deeply internalize the need to *carpe diem*, seize the day, it was my father, Alberto Del Giudice (1923-2007). He was an especially frequent-user of these personal favorites: *Chi ha tempo non aspetta tempo* ('he who has time does not wait for [i.e., waste] time'—therefore, do it now!); *Il tempo passa e la morte s'avvicina* ('time passes and death approaches'); *C'è piú tempo che vita* ('there is more time than there is life'); and finally *Oggi a me, domani a te* ('my turn today, yours tomorrow'—hence, there is no escaping death). He also

repeated other idioms related to death, such as: *A tavola si combatte con la morte* ('At the dinner table one does battle with death'—because eating while talking could make you choke)—surely, an idiom repeated, to keep children quiet and argument to a minimum. Such wisdom was the result of both life lessons learned through hardship, as well as material culture as *memento mori* from his own urban environment. I later discovered, for example, that this last saying was a vernacular translation of a Latin phrase found on one of the main churches of Terracina, our home town in Italy, found on the church of Il Salvatore: *hodie mihi, cras tibi,* with its accompanying skeleton. Further research revealed that this had been an inscription most commonly used on tombstones in the ancient world as well—a not surprising continuity, especially given Terracina's proximity to Rome (112 km.), *caput mundi*.

My father's *lived* wisdom, resulted from a hard life which included war, captivity in Nazi concentration camps, and emigration. This most likely contributed to his frequent adoption of such time- and death-related mottos. I have always suspected that it was his WWII years—two of which he spent in camps as an Italian Military Internee (1943-45), in Macedonia, Zagreb, and Mecklenberg—that made him especially sensitive to the need to celebrate life. Having actually faced death many times, especially during those years, it is not surprising that it might be so, reminding himself of his near-death experiences, imparting life lessons to his family, and reminding all to live life to the fullest. But that is a narrative fully recounted elsewhere (Del Giudice, forthcoming).

Time passing in place

We return to sundials *per se*. While many small-town sundials in Italy are anonymous and form a decorative feature of vernacular architecture, a few named mason-muralists are remembered for their expertise in sundial design. One such is certainly Giovanni Francesco Zarbula, a 19th-century Savoyard sundial specialist whose vast *oeuvre* remains conspicuous in Alpine valleys from Briançon through Piedmont, Italy. Happy chance thrust us into one such mountain valley, Gressoney (Val d'Aosta), some 35 years ago, where we saw many such façades and sundials. Returning to the area frequently thereafter, we were inspired to replicate its building traditions in our California Sierran foothill home.

But it was in a newly-completed stone cottage on the property (built as a retreat for thought and writing for me) (Figure 3), and a recently gifted sundial dated 1783 sitting before me on my desk (Figure 4), that I began to personally distill sundial references and reflections, assembled over time by this scholar of oral culture and history, together with my husband, Edward F. Tuttle, a Romance Philologist and Italian Dialectologist, who provided frequent etymological notes to this essay.

The stars seemed to align. For me, this writing project represented the convergence of three things: 1) a natural progression of my auto-ethnographic life review, by which I encouraged other women to do the same (Del Giudice,

Figure 3. The writing cottage at our retreat home in the foothills of the Sierras, California, with an eye to creating the illusion of age, in architectural details replicating those observed in Gressoney (high Alpine area of Val d'Aosta, Italy).

2017b); 2) a cancer diagnosis in 2016, which made this work more urgent, since I *was* facing my own mortality; and 3) a reflection on personal and family legacy through writings on the ancestors (Del Giudice, 2017a; forthcoming). The entire Sierran architectural legacy-complex had always attempted to create an illusion of historic depth (according to my spouse and the home's architect), in the form of stone walls, slate rooves, hand-wrought iron hardware (mostly scavenged, restored, and geographically transported from Italy to California). Yet more profoundly, this mountain home stood as *our* poignant *gnomon* or pointer, heightening the day's urgency, of life and its passing, and the legacy we envisioned for our daughters and descendants. It was where many life cycle moments and seasonal festivities were (and will hopefully, continue to be) celebrated. And it was *here* that I happened to begin writing such reflections in the Fall of 2017 (and later presented at the Svalbard conference), during the very season of Nature's entry into her cycle of darkening, shadow and repose, marked by rituals such as Day of the Dead (*I morti*), Halloween, Samain. The autumn of the year is precisely the time when meditations on the autumn of our lives, as well as tributes to ancestors, seem most appropriate.

Figure 4. Our sundial, dated 1783, sitting on my writing table.

Marking Time through shadow progressions, and an interest in sundials as a research topic, I reflected, scarcely surprised this ethnographer and spiritual-retreat-addicted contemplative (Del Giudice, 2009), since I had tended to reflect on life and the life cycle through research and writing, *pari passu,* for most of my professional life. I had, for example, written on lullabies while coming to terms with motherhood in the 1980s, and during the second-half-of-life review, sharpening my focus on related issues through writings on sundials, ancestors, war, trauma, and death. Birth and death, light and darkness, beginnings and endings. Examining humanity's ways of measuring natural, solar Time, is one way we have begun addressing our own time of transition, *i.e.*, as a joint meditation on lives shared and, in some ways, also on conjoined legacies—architectural and philosophical. Our Sierran architectural legacy harkens back to our happiest times as a young family, with annual returns to Gressoney (Val d'Aosta), to hike its magnificent trails, to participate in its slower (and more laborious) way of life, to enjoy the company of like-minded lifelong family friends. We used a friend's home for many of those stays in Gressoney, where everything had to be packed in on foot, over a

bridge, and along a path, and then into the house; where there was little connectivity, where life required more physical expenditure of energy. We delighted in this house, its setting, memories, and our entire family profusely thanks the Prat-Zagrebelsky's (and earlier the Odone's) for their generous hospitality over the years.

A post-pandemic review of this essay in 2024, when this special section on Darkness, of the journal was announced, gathering in the presentations of two such conferences in Svalbard and Kalaallit Nunaat/Greenland, many layers of meaning to my own initial meditation on sundials and time passing were added, necessitating a codicil, which I include here. These intervening years could not have given the *memento mori* admonition in our title (and inherent to sundials), more urgency. Marking time during the pandemic, as death and dying saturated our lives, our media, our Zeitgeist, reminded us that death could be on our doorstep at any moment, making this task more urgent, more *timely,* as well as more collective. For at least two years, we were pummeled by the rapidity of loss, the global millions who were here today and gone tomorrow—including family, friends, neighbors, as well as complete strangers. Many of us were hard-pressed to face the reality of death, perhaps for the first time in our lives. Elders, but even younger people, were dying—some due to natural frailty, and others due to denial, obstinance, the inclination to disbelieve science, and deadly conspiracy theories—often abetted by those entrusted with safeguarding public health (Meder, 2021; Phillips & Tolbert, 2023). Writing about sundials (as well as other death-related topics) in such an environment added a further layer of reflection on time passing, on *memento mori*, that could not have been foreseen.

The need to ponder our own demise remains as urgent as ever, as eternal as marking light and dark, as inevitable as marking life and death. We may no longer turn to sundials and their mottos to remember that life is but a fleeting shadow, but we might each find some strategy—visual, verbal, or spiritual—to remind ourselves to live life fully here and now; to seek light and hope; while embracing the reality that darkness and silence will inevitably follow, those very reminders of tasks that sundials and their mottos have long urged upon us.

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