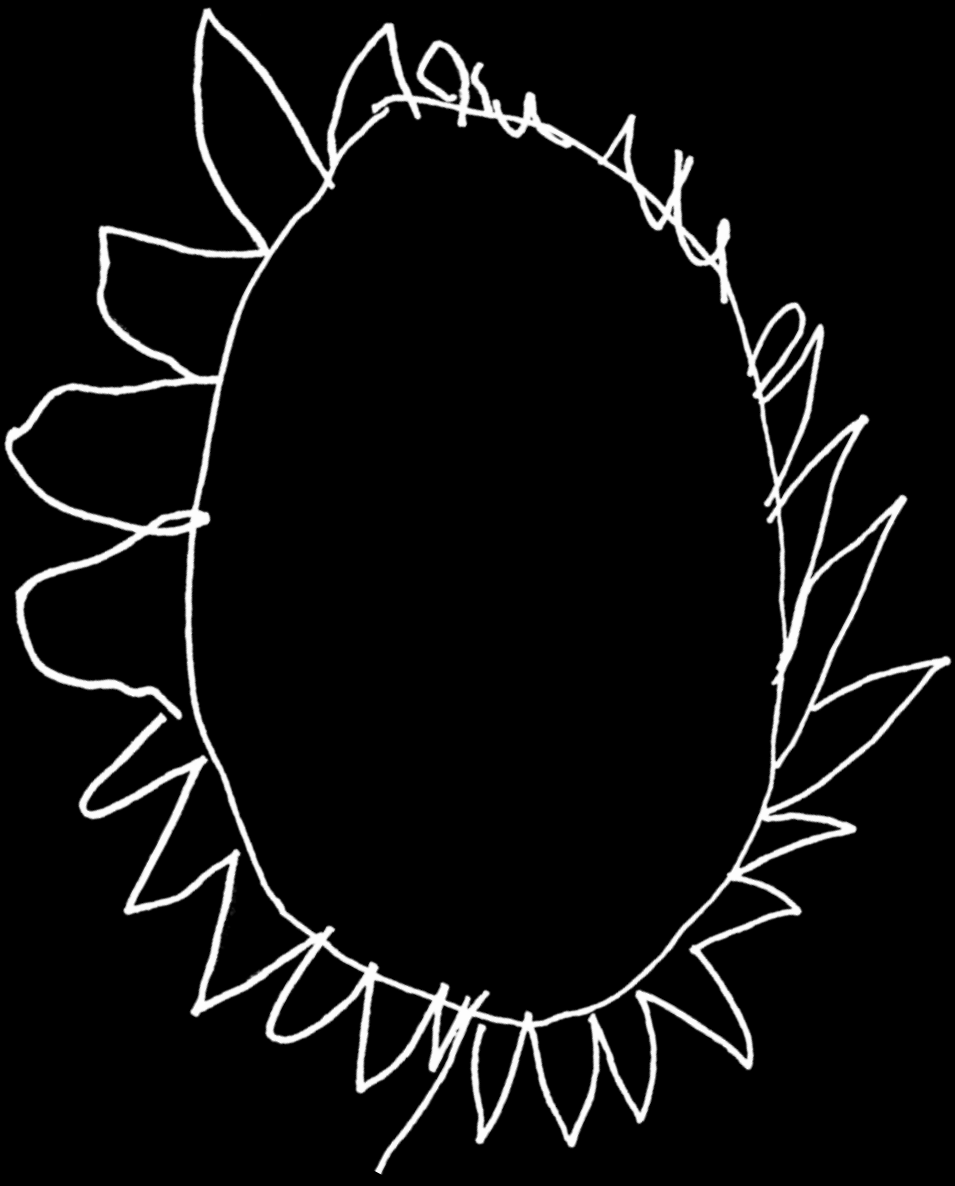


Another Time

Ruth Ewan

Law, say the gardeners, is the sun,
Law is the one
All gardeners obey
To-morrow, yesterday, to-day

From *Law Like Love*, WH Auden

Preparing the meadow for Another Time, April 2016. Photograph by Christa Holka.

Another Time is a meadow and test-bed which transforms a disused field next to Gravel Hill Farm workers' cottages, North West Cambridge into a non-mechanical clock. The plant species have been carefully selected for their predictable flower opening and closing times - an idea first hypothesised by Carl Linnaeus in 1751.

In April 2016, with the assistance of the local community, over 5 million seeds were planted on site. The meadow will begin to grow and be accessible from June 2016 – 2019. It will be in optimum bloom between the months of June – August.

Another Time has been developed by artist Ruth Ewan as part of her residency at North West Cambridge Development with Contemporary Arts Society and InSite Arts and with support from Arts Council England.

Birdcage Clock c.1790
©Trustees of the
British Museum

DOES ANYBODY REALLY KNOW WHAT TIME IT IS? Ruth Ewan

Gravel Hill Farm has witnessed many rhythms. From the agricultural year to the patterns of the native species, the cycles and studies of invasive harlequin ladybirds and 'anti-creationist' moths, the hibernation of badgers and the working rhythm of farm labourers; every living thing passing through brings its own time. With the development of North West Cambridge comes a contrasting rhythm, a quick march, shared Microsoft calendars, multiple deadlines and office clocks. The rhythm changes. Artists are invited in and they bring their own rhythms and their own, sometimes unexpected, movements and impulses.

Potatoes at Gravel Hill Farm, photograph by Ruth Ewan 2015

Around the time I arrived at Gravel Hill Farm I had seen a talk which cited Carl Linnaeus' idea to create a floral clock. I'd recently created *Back to the Fields*, a visualisation of the French Republican Calendar through objects and plant material. I found Linnaeus' idea of a non-mechanical time irresistible. Upon searching I found it had inspired many artists, musicians and novelists from across the world. I was told however it could not be realised, that those who try give up when they realise the plants will not or cannot exist together, that they don't really tell the time, that it just wouldn't work. Upon a visit to The Linnean Society the Librarian there told me crucially this idea of the 'clock' or 'Flora's Dial' had

possibly been misinterpreted. It was never meant to be planted, as the English Victorian gardeners did, as a literal clock, segmented into twelve. It was meant as a form of knowledge, and something the farmworker or labourer already knew. Was this an ancient form of time keeping?

And so began the idea to create a meadow. A way to possibly consider time, as not a linear movement but as something more complex, flat, stretchy, unpredictable, open, pulsating. An anti-clock, an autonomous clock. *Another Time* is a test-bed, an exercise in hit and miss gardening, some species may not appear in the first year, some may be eaten by rabbits, some may not appear at all. Visitors are invited to make field notes within this pamphlet on pages 34 – 43 and submit their observations – what flowers do they see, when, and at what time are they are open or closed. It has been said that as a culture we are 'plant blind'. *Another Time* is an invitation to be less so.

That great mystery of TIME,
were there no other; the illimitable,
silent, never-resting thing called
Time, rolling, rushing on, swift, silent,
like an all-embracing ocean tide,
on which we and all the Universe
swim like exhalations, like apparitions
which are, and then are not: this is
forever very literally a miracle;
a thing to strike us dumb – for we
have no word to speak about it.

From *Heroes and Hero Worship*, Thomas Carlyle, 1841

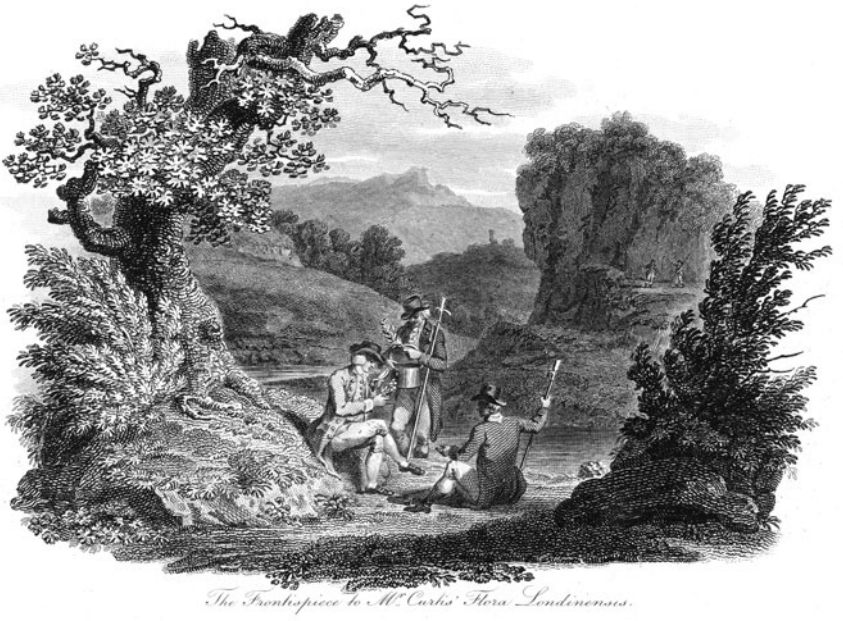
THE TIME OF FLOWERS Marquard Smith

Ruth Ewan's *Another Time* grows out of her on-site residency, devised by the Contemporary Arts Society and InSite Arts, with the North West Cambridge Development, a capital project managed by University of Cambridge to create a new district in the city. Set against the backdrop of such urban ontogenesis, Ewan's work is, remarkably, both short-term and long term; transitory and immutable, fugitive and enduring, ephemeral and eternal. It is as fickle as the wind, and as deep rooted as the trees of knowledge found spouting in the universal encyclopedias of the Enlightenment; such as Denis Diderot and Jean le Rond d'Alembert's popular and populist *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers* (1751–72), in which the record of the extent of human knowledge is so arranged.

Ewan's *Another Time* refers if not to the *Encyclopédie* per se, then certainly to the 18th Century Enlightenment's systematisation of knowledge in general, and more specifically to the oeuvre of Swedish botanist Carl von Linné (1707–1778), known as Linnaeus, and his comprehensive model for the science and medicine of plants. Even more specifically, it returns us to Linnaeus' *horologium florae*, a series of flowers classified according to the hour of the day or night at which they bloom. With different flowers having different petal-opening and petal-closing times, we can tell the time by them. Or, better, they tell us the time: it is the time of flowers.

Portrait of Carl Linnaeus by Per Krafft the Elder, 1774. Courtesy of Wellcome Library, London

Another Time is a knowledge system, then, a system of knowledge. While by no means seeking to offer a 'comprehensive model' of plants, in creating Linneaus' *horologium florae* in the present, perhaps almost by default it performs *all* botanical paradigms (and paradigm shifts) *since* Linneaus, and does so *for the future*. By doing so, in exposing humankind's on-going and ever-changing relations with plants from the Enlightenment to our contemporary late capitalist, post-industrial, globalised biosphere, Ewan's work meets head-on the pressing questions raised for humanity's ecological futures by botany, taxonomy, collections, display, evolution, climate change, the preservation of bio-diversity, bio-genetics, and hybridisation. Perhaps in part because it is a creation of an outmoded system of classification, *Another Time* short-circuits the past and the present, and the present becomes shot through with the seeds of the past's potentialities. If it resonates down the ages, at the same time its value as a work of art is also intrinsic, as André Breton famously asserts, 'only insofar as it is vibrated by the reflexes of the future'. [1]



Three men botanising, 1807, From: *New illustration of the sexual system of Carolus von Linnaeus: and the temple of Flora, or garden of nature.* By Robert John Thornton Courtesy of Wellcome Library, London

*

With regards to these botanical paradigms...

Another Time has a botanical impulse. That is to say, in creating Linnaeus' *horologium florae*, Ewan's work taps into Linnaeus' invention of botany as a man-made model, a comprehensive Enlightenment model for the science and medicine of plants.

In inventing plant nomenclature by introducing binomial naming (also known as the Latin name, made up of genus and species), by way of plants (botany) Linneaeus sets the scene for Enlightenment systems of knowledge and taxonomic thinking. Whether plants are considered for food, health, medicine, or pharmacy, this establishes humanity's 'modern' reciprocal relations to our ecological past, present, and futures. Ewan's work affirms this ecology, and ecology of contemporaneous temporalities.

Another Time is evolutionary. Here Ewan's work alludes to Charles Darwin, himself influenced by Linnaeus, and his writings on plants and flowers, and how they are evidence of human evolution, thereby raising questions of natural history; heredity; the study of erotic life of plants and links to humans; travel, collecting, and the idea of the specimen.

Hairbands tied onto trees as a good luck ritual on interview day at Murray Edwards College, photograph by Ruth Ewan 2015

Another Time also discloses the non-utilitarian aesthetic of flowers. Countering the 'usefulness' of plants as food, for health, and so on, there is a contrary tradition that recognizes the non-utilitarian use of plants and especially flowers. Ewan's work demonstrates the subject of 'cultivation', the use and useful-ness of plants and flowers - from Claude Monet to Derek Jarman to Ian Hamilton Finlay to Anya Gallaccio - to such non-utilitarian ends; their symbolic, religious, romantic, folkloric roles; and the shift from the symbolic to the literal with the advent of contemporary bio-art where plants and flowers function as living systems, and are driven by a vitality and energy, generating their own laws, demands, and desires. [2]

Ruth Ewan's *Another Time* leaves an ecological footprint: while ecological thinking goes back to Hippocrates and Aristotle, and while 'ecology' as a term is coined in 1866 by the German scientist Ernst Haeckel, it is only since the 1960s, with the advent of the environment movement, that grave concerns begin to become expressed regarding the sustainability of our ecology. Ewan's work, in a gentle way, provokes pressing contemporary political questions around ecologies as complex systems and networks, the biosphere, climate change, the preservation of bio-diversity, ecological resilience, sustainability, bio-genetics, hybridisation, and, by extension, Big Agri, interrogations of bio-tech and the bio-medical.

Bomb Proof Vault under Piccadilly at The Linnean Society, London, photograph by Ruth Ewan 2015

Ruth Ewan's *Another Time* resonates into the future; it is an archaeology of the future[3]. The work is in the future tense, the subjunctive, utopian in its tilt at what is imagined or wished for or possible. A sea of seeds as a latent archive waiting to bloom, future-facing; archives are always already resources of and for the future. The Linnean Society themselves have a bomb-proof vault under Piccadilly where they store his 'type specimens' for a future yet to come. Kew's Millennium Seed Bank Project, its Seed Information Database, the largest plant conservation project in the world aims to 'bank' the world's plant species in response to a global environment at risk from climate change and the impact of human behavior. Such an archiving of our botanical past and present in defense of the future of botanical and biological life is not unconnected to Linneaeus' taxonomic thinking, although rather than recording the extent of human knowledge of plants and flowers, The Linnean Society and Kew in a futile effort are hell-bent on safeguarding the future from its own inevitable ruination. For Ewan, ruination is, perhaps, the future's phantasmagoria.

*

If *Another Time* is a knowledge system, a system of knowledge that includes all botanical paradigms, it is also a system of *temporal* knowledge, of knowledge of temporalities, and includes all epistemologies of temporality, of these botanical paradigms. As such, like the compressing and expanding of an accordion or a wormhole in space-time, it enacts this simultaneity of botanical temporalities, and, in so doing, the work pulls, lightly and delightfully, in at least two dialectically antagonistic directions. And, it pulls us too in contrary directions, stirring a tension that is at the heart of our experience of time, of our constitution as temporal beings.

In this regard, *Another Time* continues Ewan's ongoing meticulous research into twisting time out of joint and estranging us from it. This is so for *We Could Have Been Anything That We Wanted To Be* (2011), her installation at the Folkestone Triennial of ten decimal clocks which divide the day into ten periods of time, and *Back to the Fields* (2015), her installation at Camden Arts Centre, both of which echo the post-revolutionary French Republic's abandoning of the Gregorian Calendar in 1793 in favour of an entirely new and truly trans-historical model (of clock time and calendar time) in which months and weeks were restructured and seasons and days renamed in collaboration with artists, poets and horticulturalists to reflect the shifting seasons of French agriculture.

Like these previous works, on the one hand *Another Time* presents *chronos* (an ancient Greek word for time as an ordering of the world which etymologically gives us chronometer, chronology, chronicle, chronic, and anachronistic). Ewan's work re-creates or performs that most pervasive and tyrannical form of time devised in the interest of capitalism: clock time. Here our experience of time comes to be metered and measured and managed quantitatively by units of time: seconds, minutes, hours, weeks, months, years, centuries, periods, millennia, era, etc. Clock time is, as Jonathan Crary has put it, an integral part of the 'systemic colonisation of individual experience' thereby instituting new methods of regulating human behaviour. [4] Even a flower clock, a clock of flowers, can't help but be chronological, clock-wise, keep time (for itself) even as it gives us today and tomorrow, albeit only ever on its own terms.

On the other hand, *Another Time*, in re-creating clock time as a performative which is neither linear nor rotating, neither mechanical nor digital, which is *anti*-clock, it makes visible and probes the mechanisms of time, and our experience of time, as well as its own mechanisms as an art work, and therefore, perhaps most pertinently, it institutes a struggle against the tyranny of clock time

as such. It, then, also presents *kairos*, an intervention in time, a qualitative account of 'the right or opportune moment'. *Another Time* is *kairos*, a moment of time lapse, a moment of indeterminate time, an intervention in time in which we as temporal beings might intervene.

For *Another Time*, as public art, land art, environmental art, environmental environment art, as site-specific and site-responsive, in its utopian impulse proposes an intervention orchestrated by what we might call a seed-, plant-, or flower-based temporality. The form of the work's meadow – in which the flowers are arranged not according to the hour of the day or night at which they bloom but rather are mixed together – choreographs an *unpredictably pulsing expanse of time*.

Such a temporality is attentive to what flowers are, what they do, what they need, and what they know. And what they can tell us: about the cyclical year, the demarcation of seasons and the gray areas between them, day and night, weather patterns, and the circadian rhythms of a slightly less accurate, somewhat more approximate oscillation in all living things – flowers, plants, animals, and ourselves. Flower-based temporality tells us everything we need to know about the ecology of being, becoming, biology, behavior, and environment.

It's less accurate, more approximate.

In a field measuring approximately 30 x 90 meters, Ewan has, with the participation of locals, sown over 5 million seeds. In the first year, around half of them should flower. But it's hard to predict. The flowers will grow. And grow. Albeit irregularly. For three years. And then the field will be developed, concreted over, disappeared under the brave new world of an ever-expanding urban sprawl. This is poignant, but also amusing. Because the flowers will have the last laugh. By then, it will be too late to stop them. The seeds will have been dispersed. Already. For years. Blown by the fickle winds. Carried by water. By animals. By the mud on our shoes. They will disperse. Seeds have been known to lay dormant for thousands of years. Their dormancy is in fact determined by adverse conditions. It is the state of the seed. They will survive. They will arrive. Germinate and grow. Their time will come. This is the deep time or geological time of the future. This is the time of flowers.

1. David Cunningham, *A Question of Tomorrow: Blanchot, surrealism, and the time of the fragment*, *Papers of Surrealism*, 1, Winter 2003

2. Jane Bennett, *Vibrant Matter: A Political Ecology of Things*, Durham and London: Duke University Press, 2010

3. Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions*, London: Verso, 2005

4. Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep*, London: Verso, 2013

Time tells you if it's night or day.
How early it is as well as how
late it is.
Time always goes forward
and never goes back.
Night and day, light and darkness.
Time is everything.

Answers to *What is time?*, a discussion with Mayfield Primary School pupils, Cambridge May 2016

TO MAKE TIME IS AN ACT OF LOVE Ruth Potts

> *But what minutes! Count them by sensation, and not by calendars, and each moment is a day, and the race a life.*
> — Benjamin Disraeli, *Sybil*, or *The Two Nations*

To make time, according to the anthropologist Paul Williams, is 'ultimately an act of love'. For Williams, accepting the passage of time means that we have to be aware of, and concerned for, others. An awareness of the passage of time introduces poignancy, and sometimes induces in us a corresponding tenderness. Time, then, or our experience of it, can be more like a dance round a ballroom than a walk from a to b, with twists, turns and repeated patterns that delight and divert on the journey across the dance floor.

On the biological level, we are quite precisely adjusted to the specific rhythms and cycles of the earth. Chronobiology – the science of periodic phenomena in living organisms – indicates that all biological species on earth are adapted to earthly time and its 24 hour cycle. It was this that prompted Carl Linneaus, the Swedish botanist, physician and zoologist, to speculate that circadian rhythms could be used to gauge the passing of time.

As five million seeds planted for Ruth Ewan's *Another Time* in a field next to Gravel Hill Farm workers' cottages, Cambridge, germinate and begin to grow, could they bring into being an old form of public time? Might the seeds, planted by local people inspire us to fall into step with the rhythms of the natural world, breaking us free from the clock time that hurries the passing of so many of our lives? Could the gentle meadow setting inspire us to be more aware of *Another Time*, of one another, how we use the time we have, and the ecosystem we inhabit?

Linneas wasn't the first to observe cyclical rhythms in plants. Androsthenes, an officer who accompanied Alexander the Great, noted that some plants raise their leaves during the day and let them fall at night. In the first century, Pliny the Elder made a similar reflection, repeated in the thirteenth century by Albertus Magnus. In 1729, Jean Jacque d'Ortous de Mairan, an astronomer, reported an experiment in which he observed the spontaneous daily rise and nightly fall of leaves of Mimosa pudica kept in a cupboard in the dark. For those working close to the land, such observations were part of the fabric of daily life. In eighteenth century England, *Tragopogon pratensis* (Jack-go-to-bed-at noon) was considered so reliable, that agricultural workers based their lunchtime on its movement.

Jack-go-to-bed-at-noon, Tragopogon pratensis, from *Flora Batava, Vol* 5. Illustration by Christiaan Sepp, 1828

In his 1751 treatise *Philosophia Botanica* Linnaeus took the notion of the flower clock to its zenith. Based on field observations, he divided flowers into three categories: the meteorici open and close with the weather; the tropici follow the changing hours of daylight; and the aequinoctales, Linnaeus wrote, 'open precisely at a certain hour of the day and generally shut up every day at a determinate hour.' From the third category, Linnaeus compiled a list of plants that open and close at particular times –hawkweed, garden lettuce, marigold, day lily – and proposed their use as a poetic, living, clock. He was certain that the flowers could be read within half an hour accuracy of clock time, speculating that his *horologium florae* would put the watch makers of Switzerland out of business.

Measurement of time was only standardised internationally in the nineteenth century, as the coming of the railways demanded

coordination and the factory system demanded a more regimented demarcation of labour than the task-based system it replaced. Until that point, a range of measurements had evolved as diverse, and beautiful, as the cultures and contexts they were created in. The earliest example of humankind's desire to mark the passage of time related to three components that regularly divided the day: the sun, the moon, and the movement of the stars.

Early measurements of time often related to cyclical patterns in nature. Ancient bones carved with markings representing phases of the lunar cycle show the passing of time as tracked, not measured by length. The Islamic calendar is lunar, making no reference to the changing of the seasons. The desert-dwelling people who devised it were nomads rather than agriculturalists, for whom the passing of the seasons would have been critical.

Water clocks were developed by the ancient Egyptians, and used by both the Greeks and Romans. As water dripped through tiny holes in the vessel's surface, a marked stick recorded the passing of time. Sundials were another early form of time-telling and became increasingly complex, with sticks differently calibrated to mark the passing of time at different times of the year. Modern analogue watches and clocks echo their ancestors, the motion of the hand following the passing of the shadow, clockwise, across the face of the dial.

Clog almanac, 17th C courtesy of ©Trustees of the British Museum.

It was monks, not merchants, who first needed to mark the passing of time: to awaken to Morning Prayer, or mark nocturnal devotion. Complex combinations of incense blocks in ancient China would have marked the passing of time for Buddhist monks during durational meditation – as time passed, successive blocks of incense releasing different scents into the night air. In the West, mechanised clocks marked the passing of hours in monasteries and town centres.

In 1602 Galileo noted that the swing of a pendulum determined its beat. The idea of measuring time in minutes and seconds had been thought out by the early mathematicians as far back as the fourteenth century, but it was not until the invention of the pendulum in 1657 that sufficient accuracy was attained to permit the addition of a minute hand, and the second hand did not appear until the eighteenth century. These two centuries were those in

which capitalism grew to such an extent that it was able to take advantage of the industrial revolution to establish its domination over society.

Socially, the clock had a more radical influence than any other machine: it was the means by which the regularisation and regimentation of life necessary for an exploitative system of industry could best be attained. The American philosopher and historian of technology, Lewis Mumford, identified the clock, more than the steam engine as the key machine of the industrial age, both for its influence on technology, and on the habits of mankind.

Perhaps now, as we enter the era of facebook time, Uber time, call centres, target culture, time slots, automation and the dizzying speed of financial speculation, more than ever, we need to reconnect with other, more poetic, forms of time keeping: methods that allow us to connect with the cyclical, as well as the linear, nature of time. What might it mean to rediscover the capacity to enter into the textures or sensations of the moment, to relax and give oneself over to the rhythms of a personal encounter, to pause long enough for contemplation and reflection, to follow the thread of a thought or feeling without knowing where it leads?

As the social historian and chronicler of the process of industrialisation EP Thompson notes, a great deal of coercion, both cultural and direct was needed to accustom people to the conformity of clock time. Prior to the factory, workers exercised considerable autonomy over the pattern of the day, juggling the tasks to be completed according to weather, season and daylight. On Monday or Tuesday, according to tradition, the hand loom went to the slow chant of *Plen-ty of Time, Plen-ty of time*: on Thursday and Friday, *A day t'lat, A day t'lat.*[1] Most trades, from shoemakers to colliers, print workers to potters, hosiery workers to cutlers would have observed a Saints Monday, at times with such vigour that it was 'in general followed by a Saints Tuesday also'.[2]

There was nothing automatic in the victory of clock time over other measurements. It was the outcome of a struggle that lasted for centuries. In the end, however, workers came to accept the idea of time as capital: 'The onslaught, from so many directions, upon the people's old working habits was not, of course, uncontested. In the first stage, we find simple resistance. But in the next stage, as the new time-discipline is imposed, so the workers begin to fight, not against time, but about it.'

This oppressive clock time reached its apogee in Henry Ford's production line, but workers did not acquiesce quietly to its

impositions. As the think-tanker turned motor mechanic Michael Crawford explains, before the factory line accustomed workers to abstraction – people would choose a satisfying job over a higher wage: 'So great was labor's distaste' that 'toward the close of 1913 every time the company wanted to add 100 men to its factory personnel, it was necessary to hire 963.'

IWW Clock, courtesy of Industrial Workers of the World

Our personal experience of time speaks to its non-linearity. Moments of loss might be seared onto our memory and experienced in pain that lengthens and stretches time until it feels unbearable. In moments of joy, time can seem to pass in an instant. For those of us lucky enough to achieve it, in 'flow' we fail to note the passing of time, so absorbed are we in activity. The political theorist Richard Gunn makes a differentiation between time-in-which and time-as-which. The time we reject is the 'abstract and homogeneous

progression leading from past to present to future'. The time we struggle for is the 'temporality of freely chosen actions and projects'. The aim is to live not 'in time' but 'as time', when 'time exists only as the rhythm and structure of what it is [we] choose to do'.[3]

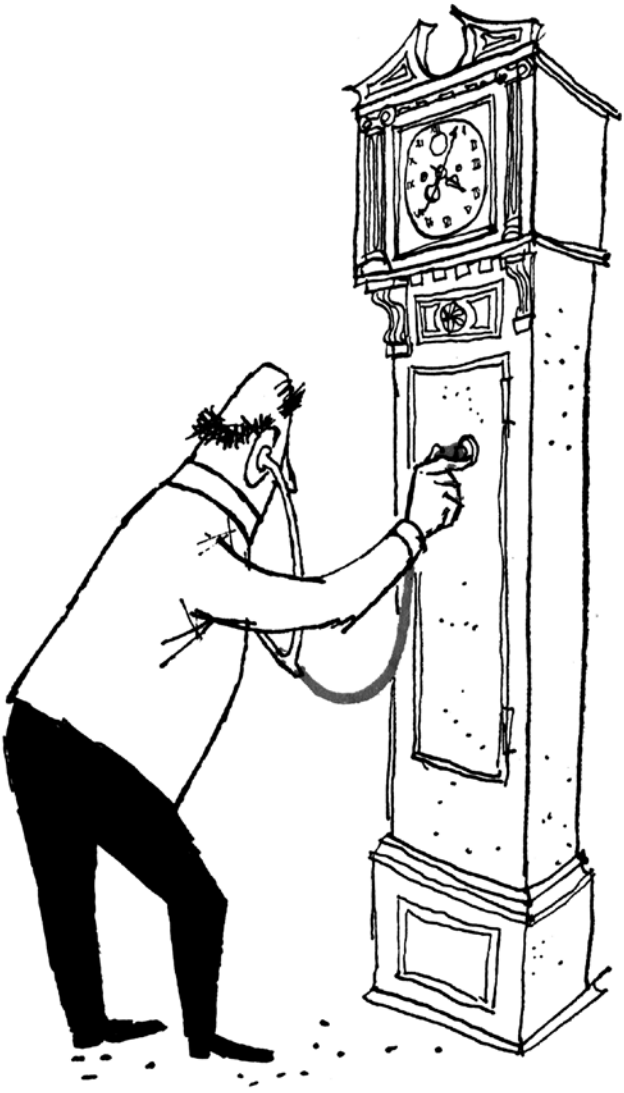
Clock time has its uses, of course; it enables us to co-ordinate. But perhaps we need to exercise a wider range of approaches to time – both fast and slow, if we are to reclaim time as our own. In many ways, we already do. It is testament to the power that the natural rhythms of life exert over us that even in the digital age our relationship with time is far from heterogeneous. Common customs the world over mark the passing of the seasons, keeping alive an earlier, more cyclical relationship with time.

Can the Blue Sowthistle, Hawkweed Oxtongue, Morning Glory, Pale Madwort and Proliferous Pink of Ruth Ewan's *Another Time* help us to reclaim time as our own? Will experiencing the passing of time together bring us closer together? Maybe the meadow scent, drifting on the night air, will alert the nocturnal walker to the lateness of the hour. Time in the meadow could help us to regain a sense of time as experience, rather than the regimented and unrelenting precision of clock time: helping us escape the tyranny of the clock. Perhaps the quiet beauty of a Cambridge meadow can help us dance to a different rhythm, together. Let's make it so.

1. Hanson, TW, p234, cited in Thompson, E.P, *Time, Work-Discipline and Industrial Capitalism, Past and Present, no.38* (Dec, 1967) p 73

2. Report of the Trial of Alexander Wadsworth against Peter Laurie (London 1811) p.21, cited in Thompson, E.P, *Time, Work-Discipline and Industrial Capitalism, Past and Present, no.38* (Dec, 1967) p 73

3. Gunn, Richard (1985): *'The only real Phoenix': Notes on Apocalyptic and Utopian Thought,* Edinburgh Review, no. 71, 1



Sick Clock found image, artist unknown

If you don't know the time
then you might sleep in.
If you need to go somewhere,
it will tell you when to go.
When the clock is going, the time is
going the same way.
If we didn't know the time everyone
would do things at different times.
It's a type of herb.
Time is what it is.
Time is the world.
Just it is.

Answers to *What is time?*, a discussion with Mayfield Primary School pupils, Cambridge May 2016

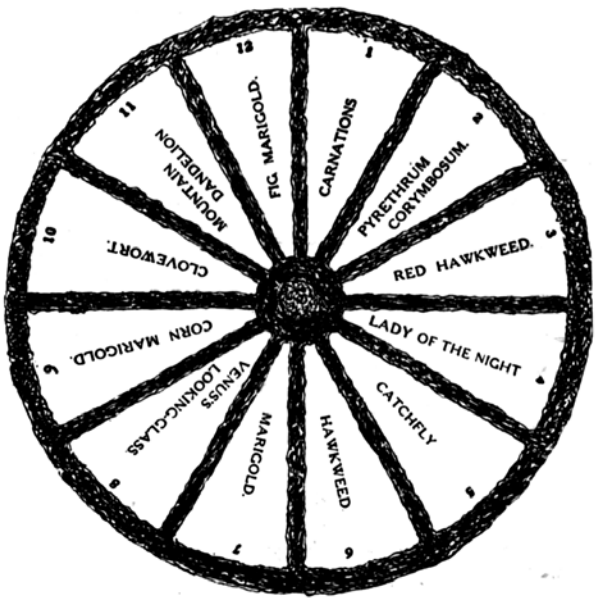
How to Make a Floral Clock.

By S. Leonard Bastin.

MANKIND has apparently been interested in the passage of time from the earliest days of recorded history. Many and varied are the devices which have been introduced to record the fleeting hours, most of them being far more notable for their strangeness than for their accuracy. One of the most curious of all horological contrivances was that invented by the great Linnæus, and to which he gave the name of floral clock. The famous naturalist had observed that certain kinds of plants only commence to display their blossoms at a particular hour of the day, and he found that in a general way these varieties were wonderfully good time-keepers. In his garden at Upsala the Swedish scientist carried out a great number of experiments, with the result that eventually he had a list of plants each one of which he had proved opened its flowers at a certain hour of the day—in all, providing an almost unbroken sequence from the dawn to dusk of a summer's day. By an arrangement of these plants in beds, each bed representing an hour, it was possible on any moderately bright day to tell the time within half an hour or so, by finding out the last plant which had opened its flowers.

For a time, in the gardens of Europe, both public and private, floral clocks became the rage. Many efforts were made to improve the list of plants suitable for the purpose which Linnæus had given to the world, the most notable attempt being that made by Decandolle at Geneva. This botanist verified the times, added new names to the number of plants already used in the construction of floral clocks, and generally improved the designs of these unique contrivances. Indeed, his list of "timekeeping" plants is, even at the present day, about the best which has yet been suggested.

From being things of frequent occurrence in gardens floral clocks have become almost extinct, and it is safe to say that in England there are not many people who have engaged in this fascinating form of the gentle art of horticulture. Yet the floral clock is within the reach of everybody who can find it in his heart to set aside a tiny piece of ground in the sunniest portion of his domain.



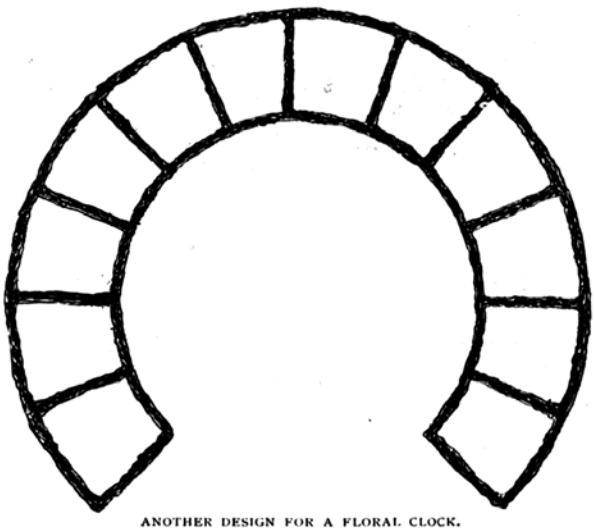
A FLORAL CLOCK SHOWING FLOWERS WHICH OPEN THEIR BLOSSOMS AT THE INDICATED HOUR.

The preparation of a bed in which to design a floral clock requires a little scheming. Of course, it may be made in any shape which suits the fancy of the deviser, but one of the most satisfactory forms is the circle, as in the specimen here depicted. The circle should be divided into exactly twelve sections, and the dividing lines should be marked out (as may be the whole bed) with some hardy, low-growing plant, such as the evergreen saxifrage, stonecrop, etc. The divisions are supposed to represent the twelve hours of the day, reckoning from six in the morning until five in the afternoon.

From *The Strand Magazine*, June 1906

Another and perhaps even better design for a floral clock than that already given is in the form of a horseshoe, as shown below, the arch-like curve being divided into twelve parts. In this shape it is an easy matter for an observer to inspect the clock, for on standing between the two ends of the horseshoe the whole of the twelve hours can be taken in almost at a glance.

It is now necessary to find twelve plants which shall each display their flowers at a different hour of the day, from 6 a.m. until 5 p.m. Of course, it is obvious that the selection of plants for the floral clock must consist of those which will all bloom at the same time of year, and, as the device should be at its best in June and July, only plants which flower at these seasons would be of any service. The following list of varieties is a good one, put together as the result of experiments by several persons. The approximate hour of opening is given before each species, though it must be borne in mind that this would be likely to vary in widely-separated localities. Wherever possible the popular name of the plant has been given:—



ANOTHER DESIGN FOR A FLORAL CLOCK.

6	o'clock.	Hawkweed (Hieracium aurantiacum).
7	,,	Marigold (Calendula pluvialis).
8	,,	Venus's Looking-Glass (Specularia speculum).
9	,,	Corn Marigold (Calendula arvensis).
10	,,	Clovewort (Arenaria rubra).
11	,,	Mountain Dandelion (Taraxacum montanum).
12	,,	Fig Marigold (Mesembryanthemum).
1	,,	Carnations.
2	,,	Pyrethrum corymbosum.
3	,,	Red Hawkweed (Hieracium).
4	,,	Lady of the Night (Mirabilis dichotora).
5	,,	Catchfly (Silene noctiflora).

Curiously enough, the most difficult hours in the day to fit with plants are twelve and three. A large number of the African succulents popularly called fig marigolds open about this time, though these would not succeed well in cold localities, and in such situations the section might be filled with carnations, as the different varieties of this flower vary a good deal as to their times of opening. So far as the writer has been able to discover, the red hawkweed is the only available plant which displays its blooms for the first time anywhere near three o'clock, and, as a rule, it is rather earlier than this time. Still, amongst the enormous number of fresh kinds of plants which are being introduced into our gardens, there must be some that would just fit in for these two awkward hours. It will not be the least pleasurable part of the possessor of a floral clock to strengthen and improve the list of plants best suited to the purpose.

Of course, the floral clock might be extended to embrace a greater number of hours than those suggested above. Several plants begin to unfold their blooms before six o'clock, as, for instance, the goat's beard, which opens its yellow blossoms at four, whilst it is followed by the yellow Siberian poppy at five. In the same way some plants wait until after five in the afternoon before showing their flowers. Thus, the evening primrose does not wake up until six o'clock, and the pretty little Marvel of Peru not much before seven. Later still, but a plant which would not be suitable for an outdoor bed, is the Queen of the Night cactus. This species does not display its magnificent white blossoms until about ten o'clock at night.

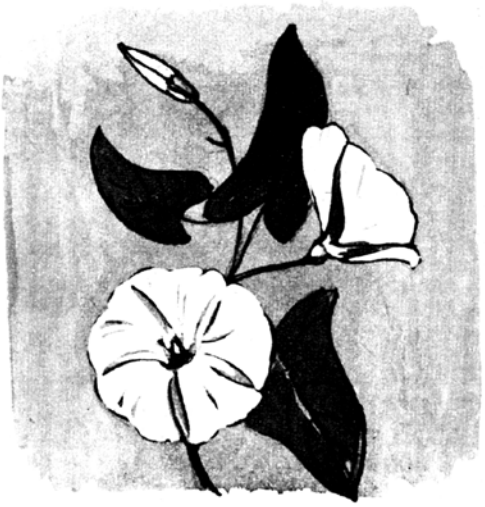
FOCUS on YOUR GARDEN

COULD YOU FLOWER

The Swedish 'Prince of Botanists' did—after years of study. Here is the formula he used for it

10 p.m. on the Flower clock: The Common Nipplewort.

6 p.m.: The White Lily



9 p.m.: Convolvulus closes for the day.

CARL LINNAEUS, the man who gave Latin names to plants so that they could be recognized by scientists all over the world, also discovered that it is possible to tell the time by flowers at any hour of the day or night.

Not by seeing how many puffs it takes to blow the seeds off a dandelion. It was all very much more scientific than that.

Carl, the son of a not-very-well-off Swedish pastor, spent all his life studying flowers. As a boy he lived in a small house on the banks of a lake, surrounded by hills, valleys and woods—ideal plant hunting country.

It is recorded that he was not very good at his lessons, but he knew all there was to know about the plants that grew in the district. All his spare time he spent studying them, looking for new varieties, taking them to pieces to see how they were made, observing their habits, comparing one with the other.

His father didn't altogether approve. "This is a fine hobby, my boy," he told him, "but it will never help you to get a job and earn your living."

He was wrong. Carl grew up to become Professor

MAKE A CLOCK?

Water closes.

2 a.m.: Yellow Goatsbeard opens. Noon: it closes.

of Botany at the famous Swedish University of Uppsala, and to become known as "The Prince of Botanists."

It was in one of the botanical gardens at Uppsala that he made his Clock of Flowers. The idea behind it was quite simple, but only a man with the most intimate knowledge of plants could have thought of it.

From his observations, Carl Linnaeus knew that there are certain flowers which open or close their petals regularly at the same time of day or, in the case of some, the same time of night.

The dandelion, for example, closes its petals punctually at three o'clock in the afternoon. Yellow Goatsbeard, which like the dandelion grows all over Britain, wakes up regularly at two o'clock in the morning. By midday it is tired and closes its petals again, so country people often call it Jack-go-to-bed-at-noon.

Linnaeus took groups of different flowers with different petal-opening or petal-closing times, and planted them in his garden to make the clock. By checking which were open or which were closed it was possible to tell the time right through the twenty-four hours—literally as regular as clockwork.

Here is a list of the sort of flowers he used and the times at which they open or close.

a.m.
1 Scandinavian Sowthistle closes
2 Yellow Goatsbeard opens
3 Common Oxtongue opens
4 Wild Succory opens
5 Corn Sowthistle opens
6 Spotted Cat'sear opens
7 Night-flowering Catchfly closes
8 Evening primrose closes
9 Field Marigold opens
10 Red Sandwort opens
11 Star of Bethlehem opens
Noon Yellow Goatsbeard closes

p.m.
1 Common Purslane opens
2 Purple Sandwort closes
3 Dandelion closes
4 White Spiderwort closes
5 Common Cat'sear closes
6 White Water Lily closes
7 Naked-stalked Poppy closes
8 Orange Day Lily closes
9 Convolvulus closes
10 Common Nipplewort closes
11 Night-flowering Catchfly opens
Midnight Creeping Mallow closes

Only a skilled botanist could gather together all these different types of flowers in one place, and get them to grow successfully, so our own hopes of making a flower clock in the garden are slim. Also some of the varieties are rare in this country, and one or two of them do not grow here at all. But most of the types of flowers that Linnaeus used do grow in Britain, either wild or in the garden.

All On Time

IT could be fascinating to carry out a spotting operation during the spring and summer to see how many of them you can track down, and how many of them open or close their petals at the correct hour in this country.

Certainly they all worked perfectly for Linnaeus in Sweden, and people went from all over the world to see this remarkable clock. The idea of telling the time by flowers, and the way in which he planted and laid out his clock, were much admired.

In many ways of course it was just a bit of botanical fun, but telling the time by flowers had a very important effect for Linnaeus. Indirectly it brought him more money and more security than he had known before, and he was able to settle down to the greatest work of his life—the preparing of the Linnaean System of classifying plants.

From *Look and Learn Magazine* no. 120, May 1964

HOW TO MAKE TIME BOMBS

A seed bomb is a small ball made with clay and compost which is mixed together with seeds and thrown into wasteland.

A time bomb is a seed bomb containing time-telling seeds, such as those featured in *Another Time*.

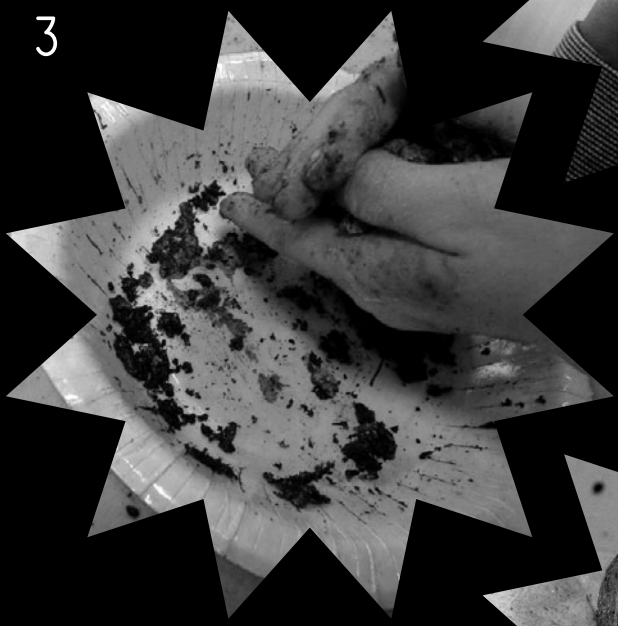
Seed can be collected and saved from the meadow and used to make time bombs for use on site or at home.

2

1

You will need;
— Seeds
— Compost
— Natural clay
— Water
— A bowl

Gather your seed – during the autumn seeds may be harvested from *Another Time*. Allow seeds to dry – do not store in plastic bags as they may go mouldy.



In the spring mix half a teaspoon of seeds with one-part clay to two-parts compost.

Add a few drops of water to bind.

Mix thoroughly.

Roll into a golf ball sized bombs – these can be dried and stored or used wet.

Throw!

FIELD NOTES

Use the following specimen images on pages 34 – 43 to identify plant species growing in the meadow. Note that there will be other native species present as well as those planted.

Record which flowers are in bloom and whether they are open or closed. Submit your data as text or photo to hello@nwcambridgeart.com

These findings will help us over the course of the project to monitor which plant species are growing successfully onsite and allow us to record a pattern of flower movements.

Seeds being sown for Another Time, April 2016. Photograph by Christa Holka.

Picris hieracioides
Multiple yellow petals
0.5 – 0.8m

Open ☐
Closed ☐
am ☐ pm ☐

Tragopogon pratensis
Multiple yellow petals
0.3 – 1m

Open ☐
Closed ☐
am ☐ pm ☐

Convolvulus tricolor
White and blue
0.3 – 0.45m

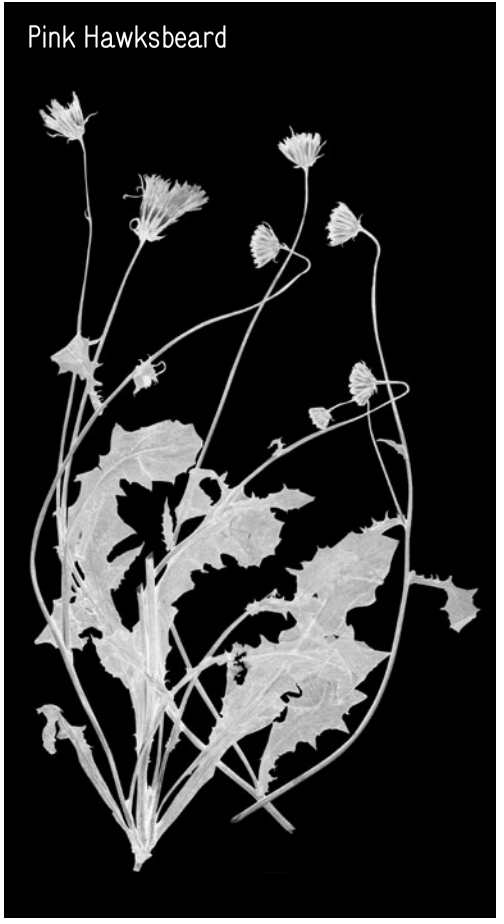
Open ☐
Closed ☐
am ☐ pm ☐

Sowthistle

Sonchus oleraceus
Pale yellow, dandelion like
0.4 – 0.8m

Open ☐
Closed ☐
am ☐ pm ☐

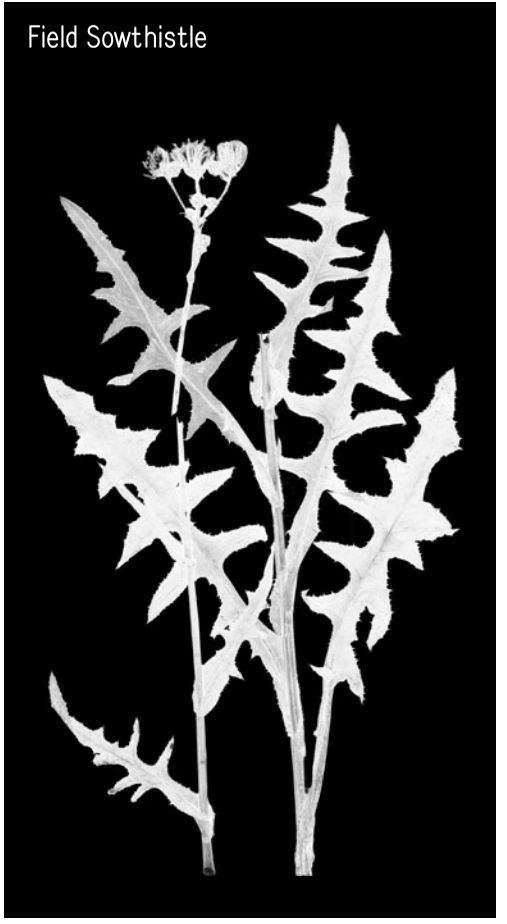
Pink Hawksbeard



Crepis rubra
Pink, dandelion like
0.3 – 0.4m

Open ☐
Closed ☐
am ☐ pm ☐

Field Sowthistle



Sonchus arvensis
Yellow, dandelion like
0.8 – 1.2m

Open ☐
Closed ☐
am ☐ pm ☐

Lapsana communis
Small yellow
1 – 1.2m

Open ☐
Closed ☐
am ☐ pm ☐

Calendula officinalis
Bright orange/yellow, daisy like
0.1 – 0.5m

Open ☐
Closed ☐
am ☐ pm ☐

Leontodon autumnalis
Small yellow, dandelion like
0.1 – 0.4m

Open ☐
Closed ☐
am ☐ pm ☐

Ornithogalum umbellatum
White, star-shaped
0.2 – 0.3m

Open ☐
Closed ☐
am ☐ pm ☐

Portulaca oleracea
Small yellow
0.25 – 0.75m

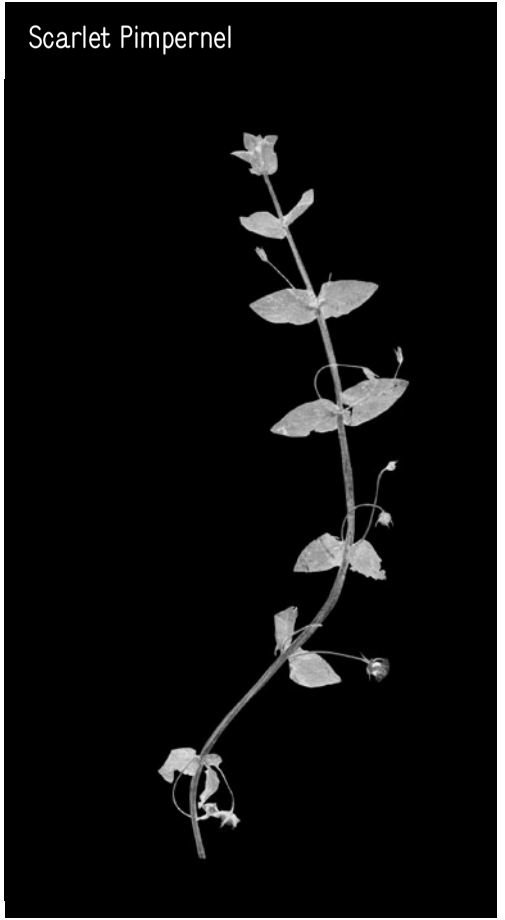
Open ☐
Closed ☐
am ☐ pm ☐

Cicerbita alpina
Blue-violet florets
0.5 – 1.5m

Open ☐
Closed ☐
am ☐ pm ☐

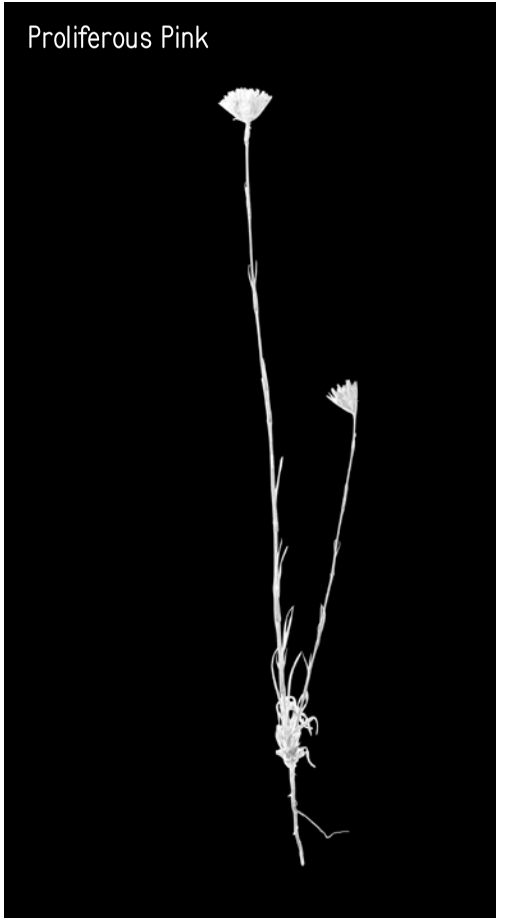
Philosella officinarum
Yellow, danelion like
0.05 – 0.25m

Open ☐
Closed ☐
am ☐ pm ☐



Anagallis arvensis
Blue or red
0.03 – 0.4m

Open ☐
Closed ☐
am ☐ pm ☐

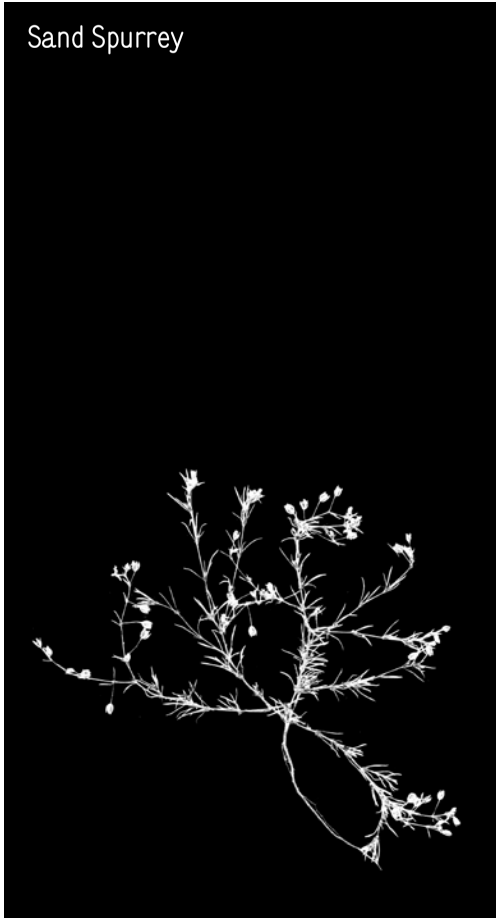


Petrorhagia prolifera
Tiny purple/ pink, long stems
0.2 – 0.3m

Open ☐
Closed ☐
am ☐ pm ☐

Calendula arvensis
Yellow/ orange
0.1 – 0.5m

Open ☐
Closed ☐
am ☐ pm ☐

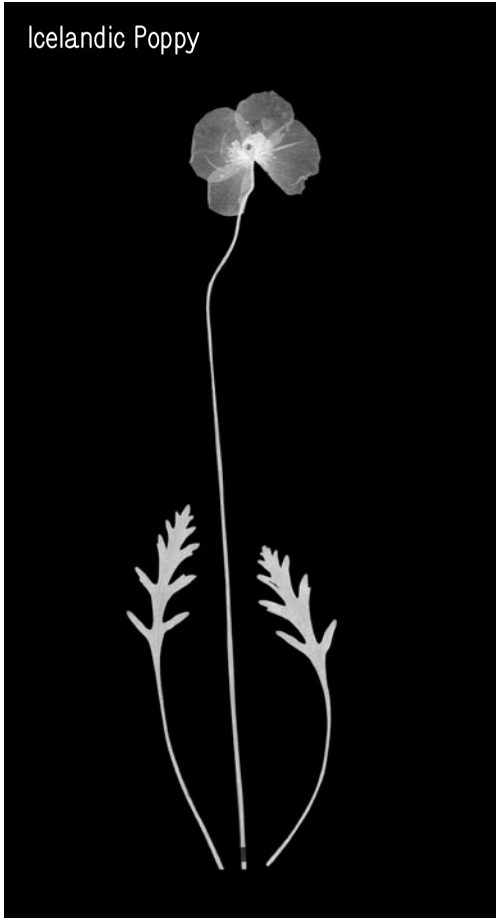


Spergularia rubra
Pale violet
0.05 – 0.15m

Open ☐
Closed ☐
am ☐ pm ☐

Alyssum alyssoides
Tiny clusters, yellow
0.3 – 0.4m

Open ☐
Closed ☐
am ☐ pm ☐

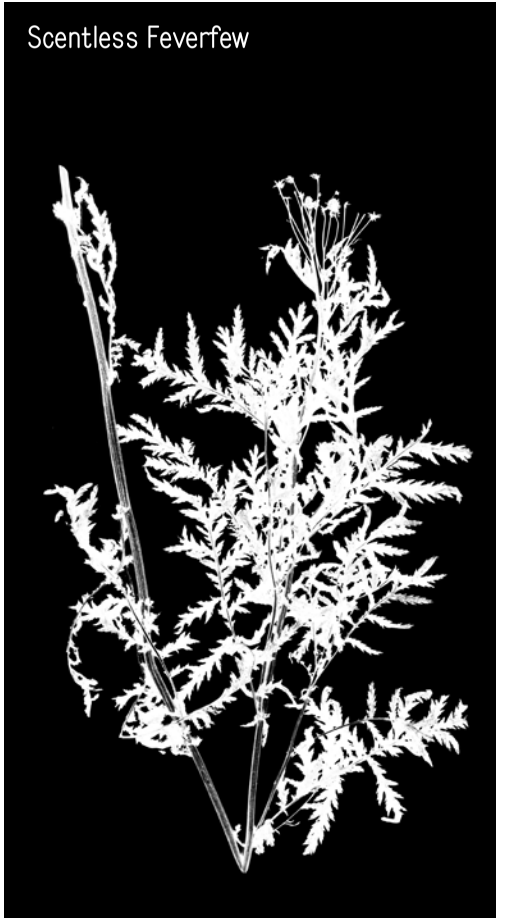


Papaver nudicaule
Large white/orange/yellow/red
0.1 – 0.5m

Open ☐
Closed ☐
am ☐ pm ☐

Mirabilis jalapa
Red/ pink/ white/ purple
0.5 – 1m

Open ☐
Closed ☐
am ☐ pm ☐



Tanacetum corymbosum
White, daisy like
0.6 – 0.9m

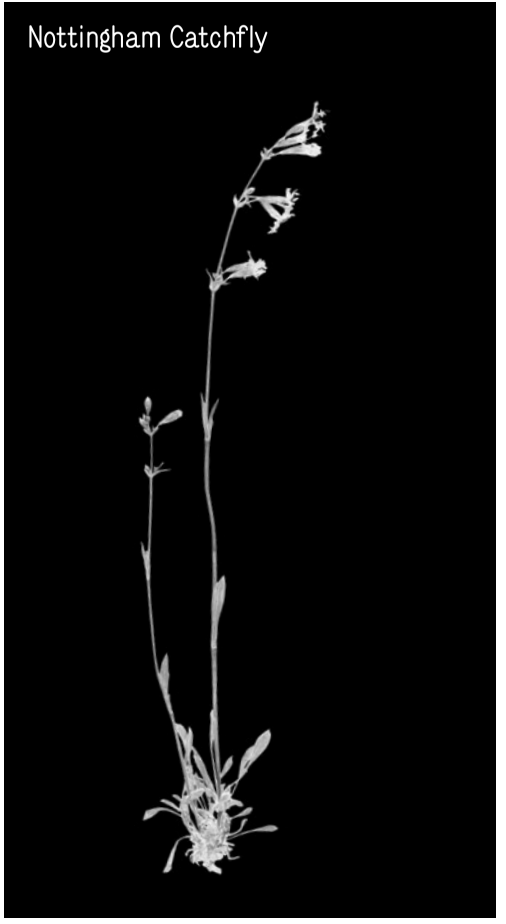
Open ☐
Closed ☐
am ☐ pm ☐

Rough Hawkbit

Leontodon hispidus
Yellow, dandelion like
0.1 – 0.5m

Open
Closed
am ☐ pm ☐

Nottingham Catchfly



Silene nutans
Long basal with white petals
0.25 – 0.8m

Open
Closed
am ☐ pm ☐

Only the Lonely

Nicotiana sylvestris
White, tubular, night-scented
1 – 1.5m

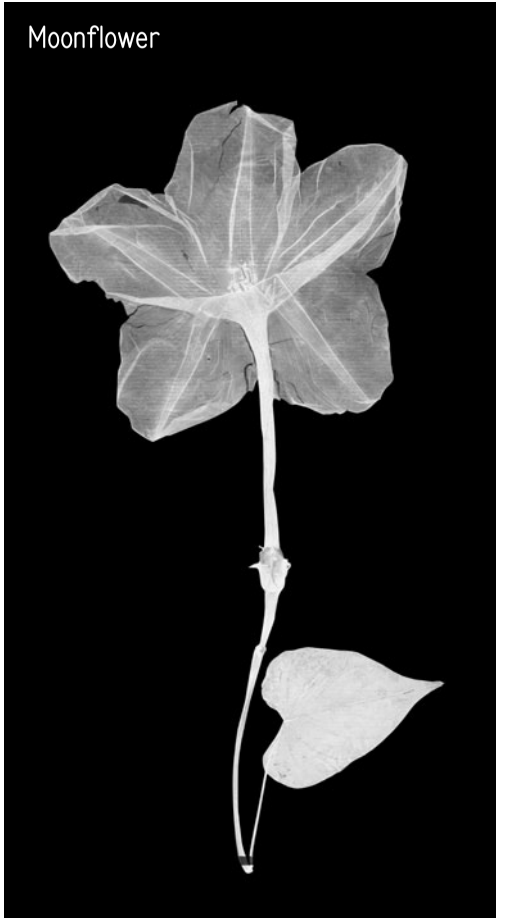
Open
Closed
am ☐ pm ☐

Oenothera biennis
Yellow cupped
0.3 – 1.5m

Open ☐
Closed ☐
am ☐ pm ☐

Silene noctiflora
Night-flowering, sm. white/pink
0.75 – 0.8m

Open ☐
Closed ☐
am ☐ pm ☐



Ipomoea alba
Large white, night-flowering
climber 5 – 30m

Open ☐
Closed ☐
am ☐ pm ☐

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