

The 2017 Summer Harvest

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THE 2017 SUMMER HARVEST



Summer is gone. From my standing desk, I can see the remnants of grapes hanging outside my large sliding glass door. Birds: sparrows, finches, the occasional noisy blue jay, have overfed themselves before migrating or starving. Who should care? These were seedless Concord grapes dating back 50 years; recently they reverted to a more winemaking sort, but they are too few. Bon Appétit birds and deers!

Days are shorter, nights colder. Soon, I'll be in Hong Kong, then in Singapore.

The news are repetitive, multiple echo chambers, and the massacre of the Rohingya continues unabated, under the immobile watch of *The Lady*, the "Ignoble Laureate". Climate change is here, in full force, as intending to summon Donald J. Trump and his clique; with a litany of first names: Harvey, Irma, José, Katia, Lee, Maria...

It is time to inspect the texts I collected and the discussions they generated. Wisdom might emerge.

The Delusion of a Heavenly Past



THE 2017 SUMMER HARVEST



The Internet, the printed press and magazines, the TV (commercial) shows want you to believe that our current urban civilization is **the** major killer; we need to return to a mythical ancient –e.g. Paleolithic- age, with the reimagined *natural* diet and way of life. Try it: you will not survive long! Your brain will remain much smaller. Worse, the microbes, the parasites, the fractures and wounds will kill you young, and your offspring has meager chances to see her first birthday. True, too many of our metropolises are clogged with smog, choked with automobiles; lots of their inhabitants are addicted to the deadly combination of sugar-fat-salt, are obese and diabetic, and need overpriced healthcare. BUT life expectancy has jumped from an average of 29 to over 80 in the last century! People do not die anymore –or so it seems. And the planet will be able to feed a humankind of 9 billion in a couple of decades thanks to increasing progress in food science.

Brenna Hassett in her book *Built on Bones: 15,000 Years of Urban Life and Death*, and even more Geoffrey West in *Scale*, remind us that it took our species something like 200,000 years to get around to trying out living in the same place all year around. Then, it took thousands of years of experimentation for those patchy early settlements to become the cities we recognize today, and it's just in these last few years that the number of city dwellers has finally outstripped that of our country cousins. We are now officially an urban planet. What we think when we envision the human past is partly a myth that tells more about where we think we're going wrong with our own lives today than anything that happened thousands and thousands of years ago.

If we look at the lives and deaths of people through all the different experimental stages of urban life, we can start to see some very interesting patterns in these urban pioneers. Patterns of disease. Patterns of malnutrition. Shrinking faces and growing numbers. Broken backs, broken skulls, bone missing where you want it and piling up where you don't—the speechless generations of the past still have quite a story to tell.

Indeed, the recent scientific discoveries in paleo-anthropology, evolutionary geology, archeology, satellite mapping, etc. have changed our understanding and knowledge of our Paleolithic or Neolithic ancestors –who shared their genome with us.

THE 2017 SUMMER HARVEST



Some of the things we know about cities in the modern world can be traced right back to their beginnings, like the role that inequality plays in determining who dies in a slum and who gets top-flight medical care. The story of humans in cities is, if you like, a kind of micro-evolutionary tale, one that we can read if we follow Monty Python's advice and start bringing out the dead. With bioarchaeology, we have the unique opportunity to get a very inside look at what the move from savanna to city has done to our bodies and our health, from slightly before the very beginning some 15,000 years ago until the Industrial Revolution and the start of our modern age.

And we do not need these ignorant greedy gurus (e.g. Loren Cordain or Robb Wolf) whose unique goal is to fleece you.

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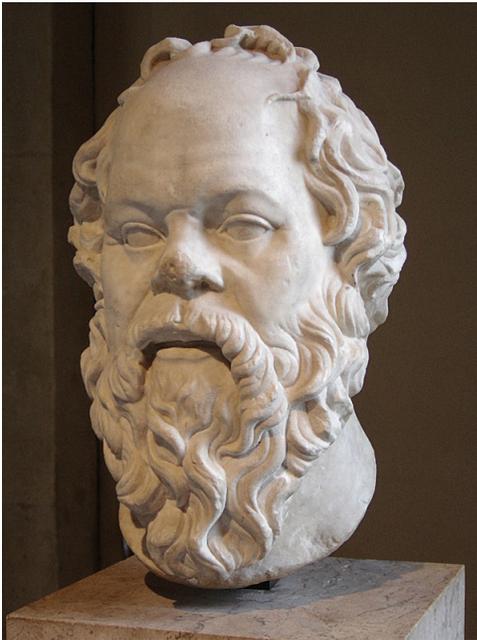
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Revisiting the Early Thinkers



The Wisdom of Ancient Greece

In the dialogues of Plato, the founding father of Greek Philosophy – Socrates – is portrayed as hugely pessimistic about the whole business of democracy. In Book Six of *The Republic*, Plato describes Socrates falling into conversation with a character called Adeimantus and trying to get him to see the flaws of democracy by comparing a society to a ship. “If you were heading out on a journey by sea, asks Socrates, who would you ideally want deciding who was in charge of the vessel? Just anyone or people educated in the rules and demands of seafaring?” The latter of course, says Adeimantus; “So why then, responds Socrates, do we keep thinking that any old person should be fit to judge who should be a ruler of a country?”

THE 2017 SUMMER HARVEST



Socrates's point is that voting in an election is a skill, not a random intuition. And like any skill, it needs to be taught systematically to people. Letting the citizenry vote without an education is as irresponsible as putting them in charge of a trireme sailing to Samos in a storm.

Socrates was to have first hand, catastrophic experience of the foolishness of voters. In 399 BC, the philosopher was put on trial on trumped up charges of corrupting the youth of Athens. A jury of 500 Athenian citizens was invited to weigh up the case, and decided by a narrow margin that the philosopher was guilty. He was put to death by hemlock in a process which is, for thinking people, every bit as tragic as Jesus's condemnation has been for Christians.



We have forgotten this distinction between an intellectual democracy and a democracy by birthright. We have given the vote to all without connecting it to that of *wisdom*. And Socrates knew exactly where that would lead: to a system the Greeks feared above all, demagoguery. We have forgotten all about Socrates's salient

THE 2017 SUMMER HARVEST



warnings against democracy. We have preferred to think of democracy as an unambiguous good – rather than a process that is only ever as effective as the education system that surrounds it.

Josiah Ober, professor of political science and classics at Stanford University says: “We tend to mistranslate it as majority rule. For the ancient Greeks, the word didn’t mean majority rule, or majority tyranny. Instead it meant people have the capacity to rule themselves. That’s the core idea of democracy, the capacity for self-governance, not power of one part of the population over another part of the population.”

Ober believes that they would describe the US as a “pseudo-democracy or straight-up oligarchy.” And they would be particularly unimpressed with the current president of the United States.

Ancient Greeks had a definite idea of the characteristics of a tyrant: “A Greek tyrant was a megalomaniac, extremely greedy for material possessions, a sexual aggressor, he sought to block out all of his enemies from any role in politics. I think they would look at our current president and say, ‘How doesn’t this fit the view we have of what a tyrant is?’ If you have a tyrant, and you accept it and say, ‘Oh, that’s too bad, we have a tyrant,’ then you don’t have a democracy.”

There are further problems that prevent the US political system from meeting ancient Greek democratic ideals. Rather than the relentless contemporary focus on elections, under a true self-governing democracy, ordinary citizens would take turns holding most public offices.

Moreover, Ober says: “*any strong democratic nation must first establish shared interests, such as a mutual desire for a basic level of national security or welfare. And strong civic education—exploring the values of the nation, and the responsibilities that go with being a citizen—is necessary to a functioning democracy.*” I think these skills can be learned. It’s not like magic. I think the Ancient Greeks would say the US is a failed democracy. They’d say the inability of the wealthy and relatively non-wealthy to come to some kind of a common judgment about things like healthcare and public education and so on is an example of a failure.”



After Greece, Rome



Marcus Aurelius (26 April 121 – 17 March 180 ACE) was Emperor of Rome from 161 to 180. He ruled with Lucius Verus as co-emperor from 161 until Verus' death in 169. Marcus Aurelius was the last of the so-called Five Good Emperors. He was a practitioner of Stoicism, and his untitled writing, commonly known as *Meditations*, is a significant source of the modern understanding of ancient Stoic philosophy, and is considered by many to be one of the greatest works of philosophy.

Meditations (Τὰ εἰς ἑαυτόν [*Ta eis heauton*] literally "[those which are] to himself") is a series of personal writings, recording his private notes to himself and ideas on

THE 2017 SUMMER HARVEST



Stoic philosophy. Marcus Aurelius wrote the 12 books of the *Meditations* in Koine Greek as a source for his own guidance and self-improvement. It is possible that large portions of the work were written at Sirmium, where he spent much time planning military campaigns from 170 to 180. Some of it was written while he was positioned at Aquincum on campaign in Pannonia, the first book was written when he was campaigning against the Quadi on the river Granova (modern-day Hron) and the second book was written at Carnuntum. These writings take the form of quotations varying in length from one sentence to long paragraphs.

A central theme to *Meditations* is the importance of analyzing one's judgment of self and others and the development of a cosmic perspective. As he said "*You have the power to strip away many superfluous troubles located wholly in your judgment, and to possess a large room for yourself embracing in thought the whole cosmos, to consider everlasting time, to think of the rapid change in the parts of each thing, of how short it is from birth until dissolution, and how the void before birth and that after dissolution are equally infinite*". He advocates finding one's place in the universe and sees that everything came from nature, and so everything shall return to it in due time. Another strong theme is of maintaining focus and to be without distraction all the while maintaining strong ethical principles such as "*Being a good man*".

His Stoic ideas often involve avoiding indulgence in sensory affections, a skill which will free a man from the pains and pleasures of the material world. He claims that the only way a man can be harmed by others is to allow his reaction to overpower him. An order or *logos* permeates existence. Rationality and clear-mindedness allow one to live in harmony with the *logos*. This allows one to rise above faulty perceptions of "*good*" and "*bad*".

Marcus Aurelius acquired the reputation of a philosopher king within his lifetime, and the title would remain his after death; both Dio and the biographer call him "*the philosopher*". Christians such as Athenagoras and Melito gave him the title, too. The last named went so far as to call Marcus Aurelius "*more philanthropic and philosophic*" than Antoninus Pius and Hadrian, and set him against the persecuting emperors Domitian and Nero to make the contrast bolder. "*Alone of the emperors,*" wrote the historian Herodian, "*he gave proof of his learning not by mere words or knowledge of philosophical doctrines but by his blameless character and temperate way of life.*" Marcus Aurelius' legacy is tragic, because the emperor's "*Stoic philosophy—which is about self-restraint, duty, and respect for others—was so abjectly abandoned by the imperial line he anointed on his death*" (Iain King).

THE 2017 SUMMER HARVEST



Throughout *Meditations*, Marcus Aurelius is active in pointing out the value of looking beyond what we intuitively see on the surface in daily life to better understand the world. In his own words: “*Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.*”

Although attention doesn’t automatically lend itself to each relevant piece of information, we can train our brain to be more proactive. By keeping this fact at the top of our mind, we can paint a more representative picture of the world. That’s where awareness and clear thinking begin.

One of the cornerstones of awareness is objectivity. It’s a kind of neutrality that aims to see the world as it is and not through personal judgment and bias. It’s not easy to cultivate. By design, our senses absorb information in relation to where we are, what we’re doing, and how we feel. The world bombards us with stimuli, and these stimuli follow a different neural pathway in each of us. We all make sense of them differently.

The same reasoning applies to people. Despite the intensity with which we feel and sense, much of what happens in the broader world isn’t just about us. There’s a larger picture, and there’s more going on. The sooner we can put aside our personal biases, the sooner we can understand reality for what it is rather than how we feel about it. It’s a crucial distinction.

Throughout his work, one thing that stands out about Marcus Aurelius is his profound ability to step away and out of his own mind and see the world and himself without emotional attachment. It helps explain the depth of his insights.

He was able to expand his circle of awareness by tuning himself out and by aspiring to see things from a pair of eyes with more than just a singular perspective.

One of the distinguishing aspects of *Meditations* is that Marcus Aurelius didn’t write it for anyone other than himself; it appears to be a very personal journal. There isn’t much coherence or structure to how it’s presented. This tells us that his purpose for writing wasn’t necessarily to share his wisdom, but it was likely to practice clearing out and organizing his own mind.

Marcus Aurelius is known today as what Plato characterized as a *Philosopher King*. A political leader who actively aspired to wisdom and was primarily driven towards knowledge. A leader who relentlessly asked what it means to live well.

THE 2017 SUMMER HARVEST



More than his virtues and desires, however, what drove Marcus Aurelius to successfully lead one of the most powerful empires in history was his ability to leverage the clarity of his mind. The scope of your awareness defines the outer limit of what you can accomplish. The more you know, the more accurately you can understand your surroundings. The better you are at organizing your thoughts, the more possibilities lie ahead of you.

His legacy would serve well our leaders today –and in the future...

Back from the Past –and soon into the Future

From the origins of *Sapiens* –or at least the neolithic, city-dweller- to computer science –and *ipso facto* Artificial Intelligence (AI)- this essay barely touched anything essential. Just like the grape berries that the birds scatter in front of my office.

I am concerned, for my children and grandchildren, by the buzz, the rumors, the canards also that obstruct the press, the airwaves, the political arenas. It seems that most political leaders –filthy rich from their looting- are playing dangerous games without being responsible.

The wisdom from the ancient times has been buried under layers of aberrant nonsense, ignorance, one-liners, and we are watching with anxiety the dramatic increase in natural disasters, atrocious massacres and wars, genocides, pilfering of the planet and scorched earth policies.

When King Louis XV (in)famously said '*Après moi, le déluge*' the year was 1757. It feels like today...



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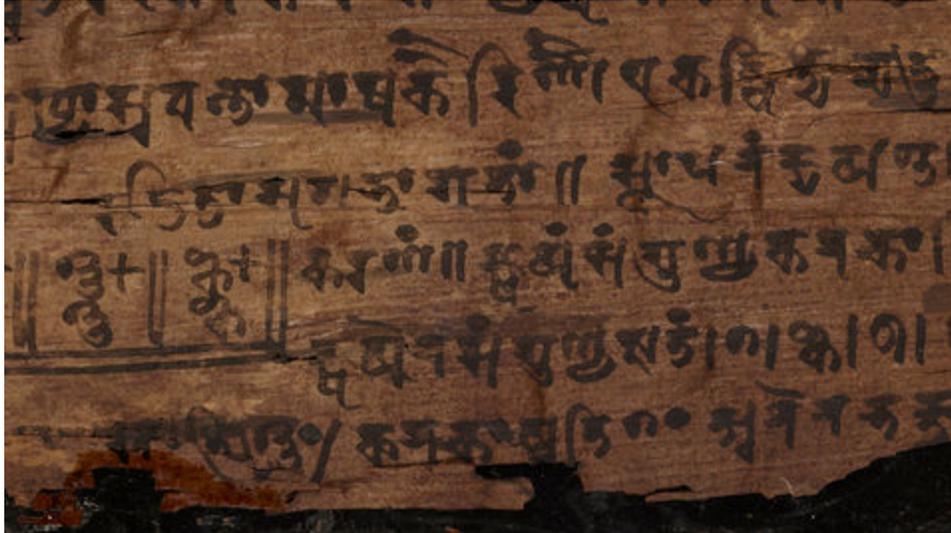
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Zero is Much Older than you Were Told



0 is both a number and the numerical digit used to represent that number in numerals. The number 0 fulfills a central role in mathematics as the additive identity of the integers, real numbers, and many other algebraic structures. As a digit, 0 is used as a placeholder in place value systems. Names for the number 0 in English include zero, nought or (US) naught, nil, or—in contexts where at least one adjacent digit distinguishes it from the letter "0"—oh or o. Informal or slang terms for zero include zilch and zip.

The word zero came into the English language via French *zéro* from Italian *zero*, Italian contraction of Venetian *zevero* form of Italian *zefiro* via *şafira* or *şifr* in Arabic. In pre-Islamic time the word *şifr* had the meaning 'empty'. *Sifr* evolved to mean zero when it was used to translate *śūnya* (Sanskrit: शून्य) from India. The Italian mathematician Fibonacci (c. 1170–1250), who grew up in North Africa and is credited with introducing the decimal system to Europe, used the term *zephyrum*. This became *zefiro* in Italian, and was then contracted to *zero* in Venetian.

The Mesoamerican Long Count calendar developed in southcentral **Mexico and Central America** required the use of zero as a placeholder within its vigesimal (base 20) positional numeral system. Many different glyphs, including this partial quatrefoil— —were used as a zero symbol for these Long Count dates, the earliest of which (on Stela 2 at Chiapa de Corzo, Chiapas) has a date of 36 BCE. Since the eight

THE 2017 SUMMER HARVEST



earliest Long Count dates appear outside the Maya homeland, it is generally believed that the use of zero in the Americas predated the Maya and was possibly the invention of the Olmecs.

In **China**, Empress Wu promulgated Zetian characters one of which was "〇" in 690 CE. The word is now used as a synonym for the number zero. Zero was not treated as a number at that time, but as a "vacant position".

Then on July 3rd, 2017, researchers at the University of Oxford, in the United Kingdom, used radiocarbon dating to analyze the Bakhshali manuscript, an ancient **Indian** text that contains hundreds of zeroes, and found that dates to the third or fourth century CE, **500 years earlier** than initially thought. This makes it the earliest recorded origin of the "zero" symbol as we know it.

The Hindu-Arabic numeral system (base 10) reached Europe in the 11th century, via the Iberian Peninsula through Spanish Muslims, the Moors together, with knowledge of astronomy and instruments like the astrolabe, first imported by Gerbert of Aurillac (Pope Sylvester II). For this reason, the numerals came to be known in Europe as "*Arabic numerals*".

The most common practice throughout human history has been to start counting at one, and this is the practice in early classic **computer science** programming languages such as Fortran or Cobol. However, in the late 1950s LISP introduced zero-based numbering for arrays while Algol 58 introduced completely flexible basing for array subscripts (allowing any positive, negative, or zero integer as base for array subscripts), and most subsequent programming languages adopted one or other of these positions. For example, the elements of an array are numbered starting from 0 in **C**, so that for an array of n items the sequence of array indices runs from 0 to $n-1$. This permits an array element's location to be calculated by adding the index directly to address of the array, whereas 1-based languages precalculate the array's base address to be the position one element before the first. There can be confusion between 0- and 1-based indexing, for example Java's JDBC indexes parameters from 1 although Java itself uses 0-based indexing.

While composing this essay, and knowing the necessity of the zero in my laptop OS, I feel suddenly much younger...



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