

Extraterrestrials Have Never Visited Earth: A Socratic Narrative

In 1981-1982, I and a friend, Chris Dietz, team-taught a series of classes on Platonic ideas at Cochise County Community College, in Bisbee, Arizona. This is a copper-mining town, 5 miles from the Mexican border, which by the 1970s, had acquired an alternative component including a number of "trust-babies" with time on their hands.

We wanted to assure our students that there was a method by which one could distinguish between opinion and truth, and we wanted to introduce them to the study of philosophy in general. After months of earnest and arduous study, we thought that the core of our rather fluid class membership had a grasp of what Platonic philosophy meant, and what it could do.

The biggest stumbling block we encountered was the pragmatic, practical ideology which intellectually disarms so many Americans (in Aquarian Bisbee, this sometimes took the form of varieties of mysticism, the flip side of pragmatism), and makes any serious discussion of philosophy difficult, especially Platonic philosophy. The dialectical process, which views reality not as a thing-in-itself, but as a relationship, is difficult for a person afflicted by the Sergeant Joe Friday syndrome ("The facts, ma'am, just the facts!"). Equally, any hint that ideas precede "facts," and not the other way around, is "intuitively" dismissed.

With Plato, we were dealing with a philosopher who had been dead for 2,400 years and whose written dialogues were dated. We cast about for a way to update him. We challenged our students to consider a problem which offered little or no material evidence, and one in which the testimony of witnesses was insufficient, contradictory, unreliable, or otherwise suspect. This was the way to challenge the nominalist bias expressed as pragmatism in the United States. Since we were at the end of months of studies, I wanted a problem which had entertainment value. "Lighten up," Chris and I told ourselves. We settled upon the topic of



by Julian Grajewski

unidentified flying objects, appropriate for a town like Bisbee which, among its charms, has a contingent of saucer devotees and was mentioned in the film "Close Encounters of the Third Kind."

Our formal title for the topic was, "If Socrates or Plato were alive today, what would either make of a UFO report?" Having now given this presentation approximately 60 times, I find that, to carry out such a discussion, I have to sketch the history of Western philosophy and give an outline of constructive geometry—one of the techniques Plato used to make philosophy sensuous. Here is the basic presentation.

Plato Vs. Nominalism

Briefly, there are two traditions of Western philosophy: One is the Platonic tradition, which has also been called Humanism, Idealism, or Realism. Of course, none of those words holds the meaning for contemporary Americans that it would for a philosopher of the Platonic tradition. Today, a humanist is confused with a humane person, and is popularly viewed as a "do-gooder." In reality, a humanist is a person who has rigorously educated himself, or herself, to understand what the best interests of the human species are. We should think of the great Renaissance humanists who were city builders and city dwellers. Today, however, among the educated, humanism is the movement that is specifically anti-clerical and focusses on toleration and cultural pluralism. Idealists are seen as starry-eyed people who do

not have both feet on the ground whereas, actually an idealist is a person who believes in the power of ideas.

Likewise, a realist is seen as a person who has a grasp of the practical, who may be cynical of human motives, but is a "man of action." In Platonic philosophy, however, a realist is a person who does not trust his five senses, because he knows that behind the concrete, there are the forms of the concrete, which can be apprehended only by applications of reason.

The other tradition of philosophy is the nominalist one. This tradition is headed by Aristotle who, of course, was a pupil of Plato, who, in turn, was a pupil of Socrates. The two traditions are by no means strictly separate, more so because of Aristotle's habit of applying Plato's terminology to his own purposes. However, broadly speaking, the term nominalism harks back to William of Ockham, and the word itself refers to the Latin *nomina*, which means naming. A nominalist suspects that ideas have no power to change the universe, and are named and considered for the purposes of discussion only.

There have been, and still are, many varieties of nominalism. Positivism comes to mind; so do the utilitarian outlooks of philosophers like Jeremy Bentham. In economics, we have Adam Smith's *The Wealth of Nations*, which is a thoroughly nominalist work. French existentialism is likewise. So is John Dewey's pragmatism. Politically, fascism is nominalist. But what concerns us here most, is the American ideology: the down-to-Earth, common-sense approach, the practicality, the quickness to action of Americans, which speaks of a thorough distrust of theory.

The Method of Plato

Plato was a pupil of Socrates, who never wrote anything down. After Socrates' judicial murder in 399 B.C., Plato founded his academy, and his fame spread widely. One of the ideas he discussed was that of the philoso-

pher-king. A king, if he were to be a good ruler, must be educated in the rigors of philosophy. Dionysius of Syracuse, a Sicilian tyrant, heard of this and invited Plato to come to teach him how to be a wise philosopher-king.

Plato had misgivings; he was aware of the corruption and brutality of most rulers of the time, but he could not pass up the chance to put his ideas into practice. He came to Syracuse, was dined and feted, and then proceeded to educate Dionysius. However, for weeks and weeks, Plato would only teach Dionysius constructive geometry, although Dionysius kept asking him to teach him to be wise. Instead, Plato continued to teach him constructive geometry, until Dionysius became thoroughly disgusted and had Plato sold into slavery. Some years later, his son, Dionysius II, invited Plato over again. And for the second time Plato travelled to Syracuse. This time, he was nearly assassinated by jealous advisers to the younger Dionysius.

What kind of geometry was it that Plato taught, that nearly cost him his freedom and life?

A Reasonable Geometry

If we look at a high school geometry book, we notice that it starts with definitions which build up to a complete system. A line is defined as an infinite number of points. A point is the intersection of two lines. We notice immediately that we have a circular definition—an absurdity at the beginning of the system, which should bring the rest of Euclidean geometry into question. Sadly, it usually does not, because most students unquestioningly accept givens.

Is there a more reasonable geometry? Plato would say, "yes." He would not start with a point or a line, but with a circle. By finding its diameter, or folding it in half, we have a line. By folding it twice, we have the intersec-

tion of two lines which makes a point. We can also inscribe in it all other plane figures, and by spinning the circle we have a sphere in which can be inscribed any solid figure. By slicing a conical section of the sphere, we can generate the self-similar spiral, which leads to higher mathematics.



But, one might ask, why is a circle more rational than a point or a line? Because the circle is the answer to a question—the interaction of two things. In this case, the two things are: what figure can give (1) the greatest area with (2) the least perimeter? Any other plane figure of the same perimeter would have less area. This property of the circle is called the isoperimetric principle. Going further, any solid figure would hold less volume than an equivalent sphere. The important thing here, again, is that we have forced our minds to move from viewing a thing-in-itself, such as a point, to pondering a relationship, which initiates a self-conscious thought process and never accepts arbitrary givens.

Freedom Equals Necessity

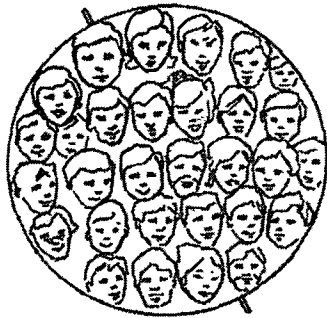
In our classes, we reasoned together by a chain of implications. UFOs in our skies suggest extra-terrestrial intelligence. (There are other possible explanations: for example, Kenneth

Arnold, the man who started the UFO craze, now believes that the nine disks he observed flying at 1,200 miles per hour across the face of Mt. Rainier, Washington, were a previously unknown biological manifestation. Others suspect that he was looking at wingtip reflections of a formation of P-80 "Shooting Stars," which, in 1947, were the latest jet fighters.) If so, such intelligence is not to be found on the planetary bodies of our solar system.

Human beings have visited the Moon; Soviet and American probes have landed on Mercury, Venus, and Mars; and fly-bys have been conducted to Jupiter, Saturn, Uranus, and Neptune. In 1986, a probe even crashed upon the tiny, black nucleus of Comet Halley. No life, not even living microbes—never mind sentient beings—has been found.

We surmised that, if the aircraft that Kenneth Arnold saw were crewed by alien pilots, these pilots would have had to have come from another solar or star system. The nearest star, the Proxima Centauri system, is more than four light years away. (A light year is the equivalent of 6 trillion miles.) Statistically speaking, these pilots probably would not have come from the nearest stars—one with suitable planets would probably be tens or hundreds of light years away—an even more stupendous distance. With our present technology, it would take hundreds and thousands of time years to cover such distances.

We quickly dismissed one of the standard plots of science fiction—whereupon thousands of people embark in giant spaceships and live and die in space between the stars until they reach their far-flung objective. Even today, such a course would be morally and psychologically unacceptable—not to mention intellectually devastating to those sent on such a pursuit, and equally to those who sent them, never to be seen again. Suspended animation would also be ruled out as even less acceptable.



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No, we agreed that these would be linear; nominalist techniques for interstellar travel. A dialectical solution would be to marshal the resources of the entire species and invent superluminary travel.

Of course, superluminary travel today is not even theoretically possible. Relativity theory states that a material object travelling at the speed of light would acquire infinite mass. Time dilation effects also come into play, with all their absurd possibilities. Supposedly, nothing in nature can move faster than the speed of light.

To respond to all this, we turn to philosophy, and posit the question that freedom equals necessity, and that when a sentient species arrives at the point that superluminary travel is necessary, the science and technology required will be developed.

Intelligence Has Infinite Potential

At this point, we stood back and took a deep breath. How would Plato proceed? We agreed that Plato's approach would be encompassing and fundamental. He might ask what the rate of development of such a civilization would be. In the accompanying figure, the population growth and energy utilization rate of the human species as a whole is plotted as two exponential curves.¹ To prove that aliens have never visited the Earth and, therefore, that UFOs cannot be the craft of an alien civilization, Plato would use the entire knowledge and experience of the human species from its inception to the present, which is succinctly presented in this graph. Let us examine it.

Although the figure does not show it, we may ask how many hunter-gatherers were on the surface of the Earth,

let us say 15,000 years ago? We find (from anthropological studies), that the Earth could not support more than 10 million hunter-gatherers. There simply would not be enough game, nuts, roots, fruits, and herbs to support a greater number. We can see that if the population curve could be plotted back far enough, it would show a long and steady rise until approximately 10,000 or so years before present. At that time, the population rose 13-fold over a dramatically short period of time. Ruins of cities such as Jericho in present-day Israel, the West Bank, and Catal Huyuk, in what is now Turkey, are found with few antecedents; they seem to suddenly be there.

At the same time, energy consumption more than doubled, from the 5,000 or so kilocalories used by our caveman (3,000 from eating and perhaps 2,000 from cooking with fire, the one energy source available to him), to 12,000 kilocalories per person per day.

Potential Relative Population Density

How did this energy and population "explosion" occur? What made 130 million human beings possible on the surface of the Earth? Obviously, it was the invention of agriculture and the domestication of animals. By capturing solar energy via the cultivation of grains, a lot more food became available, and assured, from year to year. Population density increased, and cities became possible and, soon, necessary.

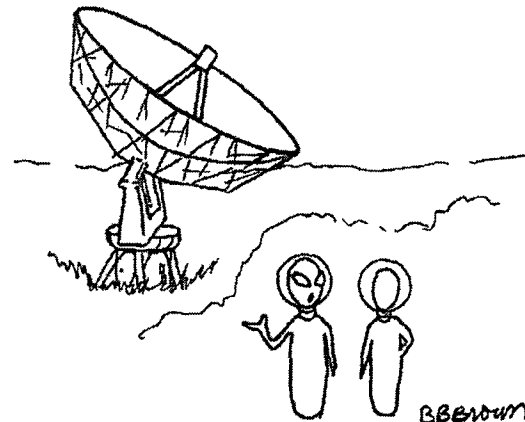
Other inventions followed: hydro-engineering, metallurgy, weaving, roads, ships, better weapons, and the science of astronomy were developed. In spite of negative developments, such as the spreading of warfare at many social levels, and the honing of superstition and magical practices (which, in some cases, led to human sacrifice and infanticide even as late as the Carthaginian culture), the population increased until, during the Renaissance the globe counted 700 million people, each utilizing an average of 70,000 kilocalories daily.

During 1986, the population broke through the 5 bil-

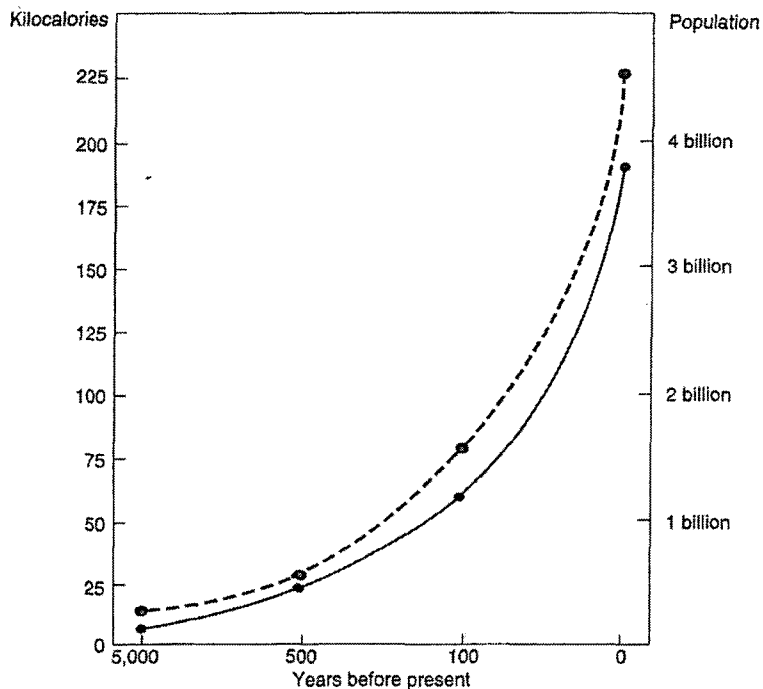
lion mark. If we add up all the energy used by the human species in all its multitudinous activities, such as eating, agriculture, manufacturing, power production and consumption in ships, aircraft, computers, lighting, air conditioning, heating, maintenance and building of roads, military uses, space programs, scientific enterprises, research, and innumerable other categories, the figure comes to roughly 250,000 kilocalories per person per day. Of course, this is an average, and the rich in rich countries use far more than the poor everywhere. It is easily seen that peasants in some African and Latin American countries are often lucky to consume 12,000 kilocalories daily—what an average human being consumed 10,000 years ago!

Far more interesting than these statistics, is how they look when plotted on the graph. The amazing thing is that here, today, with technology nowhere at the level where superluminary travel would be even theoretically conceivable, where perhaps a solar system economy (colonization and terraforming of, let us say, Venus, Mars, and some of the moons of Jupiter and Saturn), begins to look possible, our population and energy utilization are approaching 300,000 kilocalories per person per day.

Here is where I pause, and ask how many people there would be if the plotted curves were to touch the present axis, or approach it very closely? Those who have taken an algebra course struggle with upwardly increasing figures (Carl Sagan's billions



" DID YOU LEAVE THE ANSWERING MACHINE ON ?
I THINK WE MISSED THEIR CALL . "



ENERGY CONSUMPTION AND POPULATION POTENTIAL

The process of scientific invention through the course of human history, has produced an exponential increase in per capita energy consumption (dashed line), showing that secular increases in human population-potential produced by scientific and cultural progress more than offset the increases in population (solid line). In the modern period, the introduction of fossil fuels and, most recently, nuclear energy, has rapidly increased the energy density available for further progress.

and billions!) until infinity is first tentatively suggested. The staggering fact is that today, we are on the threshold of infinite population growth and energy use.

Proof Positive

At this point, we might imagine Plato or Socrates pausing and sitting back (of course, in circa 2,400 years before the present, chairs were yet to be invented), to let all this sink in. They might smile, and then ask: "Now, what does all this have to do with flying saucers? Why does all this prove that aliens from outer space have never visited Earth?"

Well, Socrates would certainly ask the fertile question now. If aliens are visiting our home Earth, where would their civilization be on this graph? At what technological juncture would superluminary travel place them? If one extended the time axis and the two curves 20 miles straight up, the curves

almost vertically punching through the ceiling of the classroom and the roof of the building to reach the stratosphere, where skies are blackening, our visitor's population and energy utilization figures would be stupendous—practically at the infinity point. So, we would have a species of aliens spreading throughout the galaxy, and perhaps spreading to other galaxies *ad infinitum*.

What would necessarily occur when these beings reach Earth?

Well, let us step back again, this time to June 24, 1947, at 3 p.m. On that day, Kenneth Arnold, a civilian pilot, was looking for a downed DC-4 Air Force cargo aircraft. It was then that he saw the nine flying disks spreading across the face of Mt. Rainier, to be promptly dubbed "flying saucers." I submit, and so would Socrates and Plato, were they alive today, that if sentient alien beings from another star system were piloting these saucers, then

by 3:42 p.m., our own civilization would have been advanced by them beyond recognition! That this did not happen, demonstrates that extraterrestrials have never visited the Earth.

Dialectical Method

At this point, my "proof" is usually met by a profound, puzzled silence. Quickly, a number of objections are raised. The first one is that alien cultures would not necessarily follow our mode of development. The idea of trillions and quadrillions of beings, whether human or otherwise, is daunting, especially in this age where the notion that we have a "population problem" has been internalized by many. Some biology students point out that population figures for animals and bacteria show the characteristic bell-shaped curve, where exponential growth is followed by equally exponential extinction. Answering these objections involves pointing out that human beings are *sentient* beings and therefore can alter their environment to suit their needs by applications of science.

Likewise, it is objected that resources are finite and, therefore, cannot support infinite growth. I answer this objection with the story of fractional distillation. In the 19th century, oil was not an energy resource. Pennsylvania farmers would feed gobs of crude oil to their sick cows as a purgative. The oil was gushing out of the ground for millions of years, but it did not become a resource until chemistry was developed to the point that oil could be distilled into fuel. To a cave-man, a stone might be sharpened into a spear point or thrown as a missile—limited uses for a resource finally exploited thousands of years later by Hittite metallurgists. That rock may have existed for four or five billions of years before it was smelted into iron.

There is enough fusile deuterium in a gallon of seawater to release the equivalent energy of 300 gallons of gasoline in a thermonuclear reactor of the near future. The deuterium has existed since the beginning of the universe, perhaps 15 billion years ago; yet, it is still to become a human energy source, one that could not be imagined until the 1930s. Thus, only if

resources are viewed in nominalist isolation can they be considered finite. Viewed dialectically, as an interplay between a raw material and technological sophistication, we find that the resource base is predicated upon the cultural and technological level of society.

I insist upon the close connection between population growth and scientific innovation (already apparent in the figure), by asking why a gasoline engine was not invented at the time of Plato? Is there a reason that it was instead invented 2,300 years later? Yes, there simply were not enough human beings, enough brain mass, enough division of labor, enough social stimulation, to generate an oil economy until the 20th century! Some students nod affirmatively at this latest example of dialectical reasoning.

The readers of science fiction among the audience then ask, why would the alien visitors have to contact us and develop us? Why could they not maintain a scientific detachment? Perhaps they see us as too primitive to interact with them in a meaningful way? Perhaps we are too warlike for them, and they would decide to shun us? I suggest that sentience is a universal (a Platonic concept). Once a being achieves sentience, it can be taught to interact with any other sentient species in the remaining universe or cosmos. Sentience, intelligence, creativity, are by definition infinite in scope and effect. Thus, all sentient beings are joined in this infinity.

Freedom Equals Responsibility

The uniqueness and preciousness of human life becomes apparent, for, at the infinity rate of development, each and every sentient being becomes important to every other sentient being; no one's ability or life can be wasted or diminished. In such a social geometry, it is probable that the loss of even one life, by accident, murder, or war, may prove catastrophic to the entire species, because the contribution that that life would have made would have been vital. One can even abstract this concept into an index (much as insurance companies do with actuarial tables),

and state that the cumulative loss of lives represented by the miseducation of an individual, or his relegation to a menial function, or one even slightly less in accord with his potential, could also prove disastrous.

For example, the contemporary practice of undereducating women and paying them lower wages would be prohibitive. So would most of today's jobs be considered a lethal waste of potential: salespersons, stockbrokers, investment bankers, insurance agents, hamburger flippers, soldiers, manual laborers, advertising executives, secretaries, management consultants, waiters, real estate agents, politicians, grant writers, drivers, systems analysts, etc. Useful jobs would be those of scientists, engineers, technicians, skilled workers (such as machinists who perform the vital function of translating a blueprint into cut metal), teachers, writers, musicians, artists (who, if they are good, increase the self-consciousness of the species and foster overall creativity), explorers, pilots, and perhaps other categories of employment we have yet to dream of.

The degree of social coherence of a superluminary civilization would have to be stupendous. Today, there is much wishful thinking about the possibility of extrasensory perception and telepathy. These abilities are theoretically possible (after all, our brains are electrical transmitters), but realizable only in a society with much greater social cohesion and a need for rapid and efficient communication among individuals (instead of our present anarchic one).

Today, claims of repeatable telepathic communication (chance ones may occur occasionally as our billions of brain cells may very rarely transmit and receive signals at the proper power and frequency), are simply evidence of nominalistic thinking. However, in a superluminary culture, they would necessarily be an every moment event. In such a culture, every kind of life-enhancement would have to be practiced: its citizens would have to be practically immortal; crime and war would have to be abolished; new sentient beings would have to be

discovered on other planets; all physical processes would have to be mastered, including planet, star, and galaxy formation, and, ultimately, even the creation of new universes. Here we must be aware of the dictum that we cannot predict with our present consciousness, what our future consciousness will be, and thus there will be now-unimaginable "ultimate" necessities.

To bring everyone back down to Earth, I name one practical advantage (in spite of my diatribes against nominalism and pragmatism) of this dialectical proof that aliens have never visited the Earth: At the moment, Carl Sagan [now deceased], et al., are spending millions of dollars to set up radiotelescopes to listen for possible alien signals. If what I have discussed holds, then this is a waste of time, money, and effort: Any sentient beings in other star systems (unless they are very close), would be advancing so rapidly, after having discovered radio, that they would arrive at the Earth well ahead of any signals they might have transmitted years previously!