

# WHAT IF GRAVITY IS THE DEPTH OF AN OBJECT ALONG ITS FOURTH DIMENSION?

AND THE MISSING ANTIMATTER OF OUR COSMOS IS SITTING PRETTY,  
RIGHT UNDER OUR NOSES, ON THE OTHER SIDE OF THE FOURTH  
DIMENSION OF OBJECTS WITH MASS?

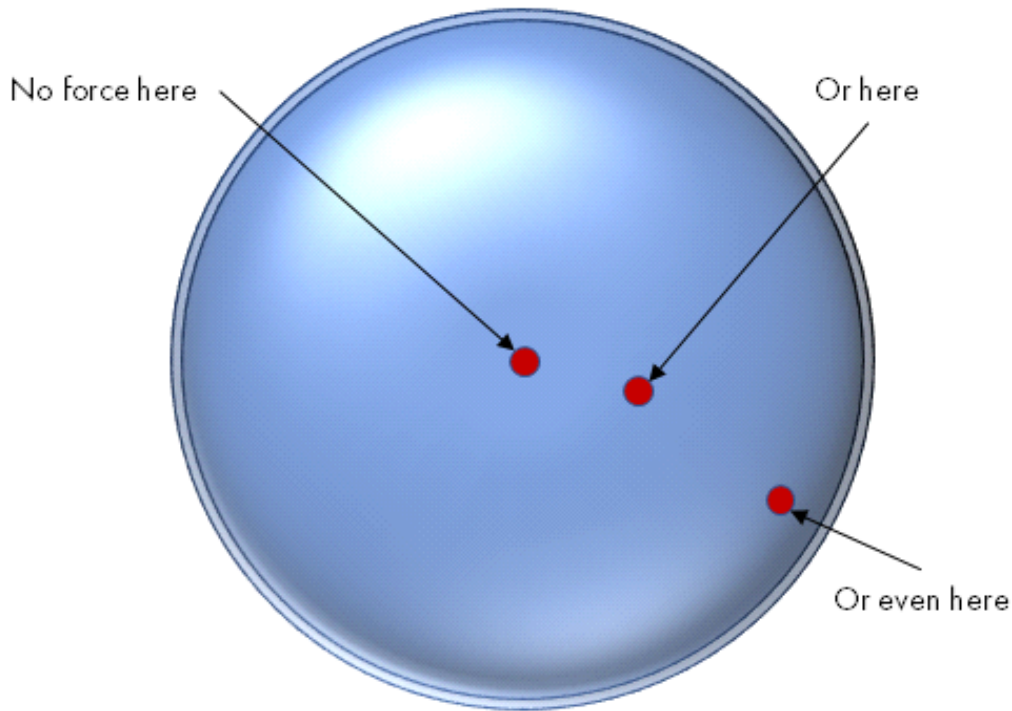
ON THE OTHER SIDE OF THIS DEPTH?

FOR THIS CONCEPT, THE WORD DEPTH REFERS TO THIS FOURTH  
DIMENSION AS IN:

LENGTH WIDTH HEIGHT AND DEPTH.

imagine for a few minutes that we could reduce all of a spherical earth's mass to a bose-einstein condensate, all of which is localized only at its spherical surface. as a condensate, this hollow object would exist in a singular atomic state. behaving as a single atom, space as we know it might not even exist inside the sphere. that is, that space might exist in a quantum nonlocal state. further, according to newton's proven shell theorem:

all gravity would cancel at all points within the sphere. this would be a very exotic space indeed. would it be like a perfected, though classically physical and completely hollow black hole of some kind, but without the crushing gravity inside? what would the temperature be inside? could we even say there is a temperature there? perhaps zero kelvin, but perhaps undefined? if a glass marble were located anywhere inside, but not touching the inner surface, it would feel none of the gravity from the surface mass of the sphere. since this inner volume is contained within a singular atomic condensate, and thus might manifest a nonlocal quantum space, would the marble inside be in superposition, a spread out wave function in quantum mechanics, only a field state in quantum field theory? or might it just be an empty classical space where marbles could float weightlessly?



so we would theoretically have a nongravitational, nonlocal space inside this hollow sphere. soak this in deeply to get your mind warped into an unusual perceptive state. really soak it in. then consider this: can matter objects even exist in this hollow in a classical state? now return to the questions from the top of the page:

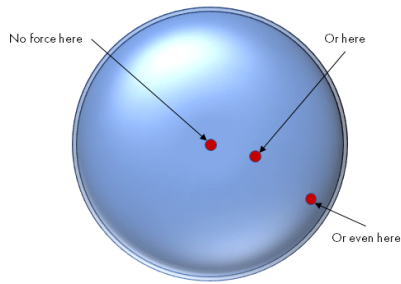
## WHAT IF GRAVITY IS THE DEPTH OF AN OBJECT ALONG ITS FOURTH DIMENSION?

AND THE MISSING ANTIMATTER OF OUR COSMOS IS SITTING PRETTY,  
RIGHT UNDER OUR NOSES, ON THE OTHER SIDE OF THE FOURTH  
DIMENSION OF OBJECTS WITH MASS?

ON THE OTHER SIDE OF THIS DEPTH?

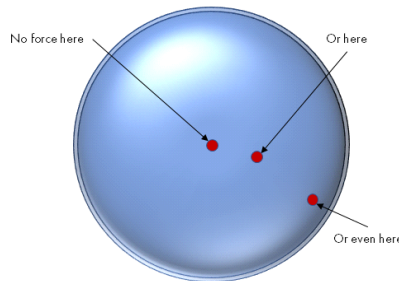
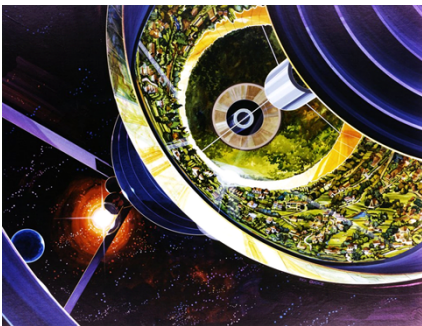
FOR THIS CONCEPT, THE WORD DEPTH REFERS TO THIS FOURTH  
DIMENSION AS IN:

LENGTH WIDTH HEIGHT AND DEPTH.



the 4-depth of this object is now just the thickness of the spherical shell. it is a classical thickness in normal 3D space. but also a 4-depth because its gravity is completely contained in this thickness, distributed around the shell. think of the thickness of this 4-depth to be the fourth dimension of mass, matter. thus this thickness is the time dimension of this exotic object. being the size of the earth, its diameter is eight thousand miles of empty quantum space inside the shell. this means, though rather counter intuitively, that the radius of this eight thousand mile wide object, as perceived from the outside is four thousand miles, but its inner radius is not four thousand miles because classical space does not even exist inside the shell, only in its thickness. skilled physicists could probably calculate the theoretical thickness of the classical, actual thickness of the shell. but for this perceptual exploration, let's assume the thickness is one inch. thus, the actual classical radius of this eight thousand mile wide object is only one inch because there is no classical space inside it. yet it does have an actual classical four thousand mile radius relative to the shell, but which is imaginary relative to the inner space. the inner space is imaginary only, yet quantum real. it is really there. got a headache yet or have you just gone away?

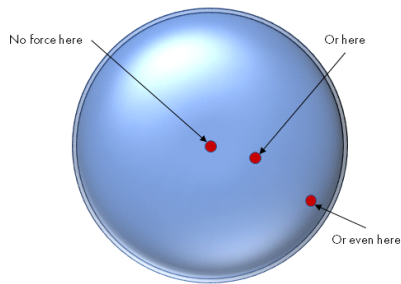
keep in mind, the construction of this exotic earth hollow would not be considered impossible for a type two or higher civilization on the Kardashev scale.



and this one inch classical radius of this eight thousand mile wide quantum sphere can perhaps give us a perceptual look at the other side of the fourth dimension of matter, its 4-depth. time for this object can perhaps be actually defined as one inch thick. its time dimension actually confined to a physical inch. here is the big question with a theoretical answer. if constructed someday, would the matter polarity of the shell switch for the inside of the shell? would the shell from the inside be antimatter, and from the outside be normal matter, though in bose-condensate. or rather because it is in condensate shaped into this exotic shell? if matter cannot exist inside because space is not defined classically, could antimatter marbles exist inside because the polarity is right for it to exist there? is quantum space actually virtual antimatter?

well these last three sentences probably departed from physical theory. but it can't hurt to flex the mind a little.

if you perceive this in flat two dimensions as an ordinary coin, though a quantum gravity coin, if you flip it over, it shows its antimatter side, flip it back over it shows its matter side. but of course this is impossible in two dimensions since the edges of the matter-antimatter coin would be confused, neither or both. but as this condensate 3D shell, the matter and antimatter are clearly defined, sort of separated but not actually. if this concept is sound theoretically, then antimatter must be considered as just polarity in this case. remember, there are no antimatter or matter atoms in this shell to self annihilate this exotic object. it is a single quantum atom because it is a condensate. would this exotic object have a name? a quantum dyson earth sphere?



could an advanced kardashev civilization choose this route instead of a classical dyson sphere to master itself and its energy and spatial needs? well, this is too exotic of course to even guess. the nature of space in this thing is undefined, at least for us as not even yet a type one civilization. all of reality, of existence itself, is considered an antimatter asymmetry debt. can an advanced civilization ever balance this antimatter debt by getting on the other side of the fourth dimension in this way, or some other way, to be able then to traverse this gravitational and temporal divide? one can only hope.

this perceptual exercise was already running in my mind when i awoke today. i get lucid dreams occasionally. the basic exploration here is about whether the missing antimatter asymmetry debt is closer to our reality than we normally believe. some imagine an antimatter sister universe complementing our own by existing extremely far out in deep deep deep outer regions way beyond our cosmic horizon, though tethered to our side of the cosmos by superluminal filaments, entangled as they say in quantum theory.

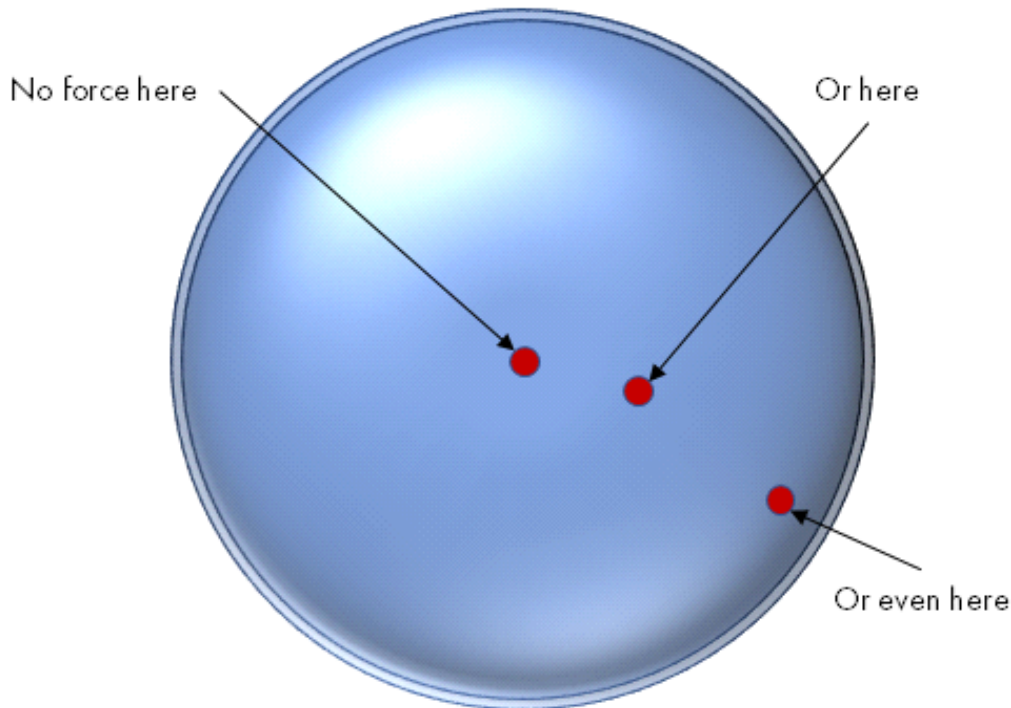
but if something is entangled in this weird quantum way, it cannot truly, or at least not completely be described as distant. it is right here but unobserved. it is both way out there and right here. we experience its reality only as gravity.

this exotic object in this paper is cool for me because it is essentially its own matter-antimatter universe, with the antimatter state aiming in and the matter state aiming out, being one and the same non-atomic matter. non-atomic in the sense of bose-einstein condensate, extending and unifying itself as a single atom. in a sense it is matter not made of parts. solid atomium.

the conception that all inertial forces and thus gravity are at a fundamental level, antimatter asymmetry debts is a sound one, but difficult to test. the cause of inertial forces is somewhere very deep inside our classical existence. its full causal understanding and potential exploitation is a holy grail beyond our dreams even. we would have to dream up new dreams if we ever create a world for ourselves out of this stuff. we would be at or beyond star trek if we ever

reached this level. is it even possible? will it ever be possible to create inertial forces from the quantum level, whatever that means? we don't know what gravity is yet. we know its manifested patterns of influence, general relativity, but what really causes it? someday. hopefully someday soon. good song by the way, someday soon.

theoretically this object is possible. if a type two kardashv civilization actually created one, and could sustain it in space without evaporation of its condensate shell, both inside and outside, and could engineer access points to enter and leave the thing, they might actually have an invisible planet for themselves, since the condensate nature of the shell would not radiate photons, nor likely reflect them. of course incoming radiations would need to be prevented from eventually dissolving the condensate shell.



and an inner shell of normal matter with a vacuum between it and the condensate shell would need to separate the inner living space from melting, dissolving the outer condensate shell. this inner space would be gravity cancelled regarding its own massive condensate shell, but i think, according to issac newton, there would be gravitational influence from the outside, the solar system, mainly the sun and moon. there might probably be some, though way way less than 1 G of gravity on the sunside of the inner shell at all times. flat floors could be installed facing the sunside so at least stuff inside would lightly settle flat on these floors. imagine the usefull space available if we had a fully hollow earth. slowly rotating spaces could provide inertial gravity. of course a type two civilization may have already mastered the manipulation or even artificial generation of inertial forces. that holy grail would be GOD-like technology of course. if we are GOD's children, doesn't that imply we are supposed to grow up? of course the ability to create this big exotic object would be equally GOD-like compared to us right now. it sucks still being in cosmic kindergarten. but at least our time has not yet run out. if we humans do survive without major setbacks for even just a few more thousands of years, what will our futures bring?