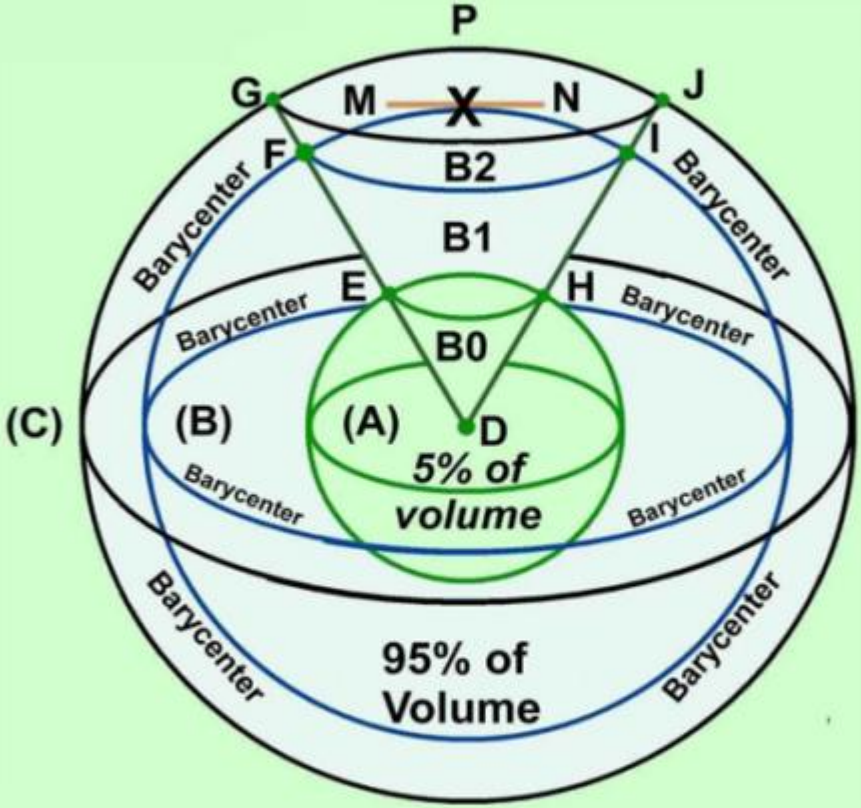
DARK MATTER IN A FLUID UNIVERSE

by Wayne H. Wilhelm



A SUMMARY OF THE BOOK

Prior to a Galactic or Planetary System Forming

The Dark Matter - Dark Energy Riddle Solved

A CG on Science Publication

CG on Science Publications (CGS)

(by Wayne H. Wilhelm)

CG on Science on:

Dark Matter in a Fluid Universe	Book
Birth of a Hurricane	ePamphlet
Seismology	ePamphlet
Significant Numbers	ePamphlet
	ePamphlet

(listing current as of 02 April 2025)

Simple principles having simple explanations.

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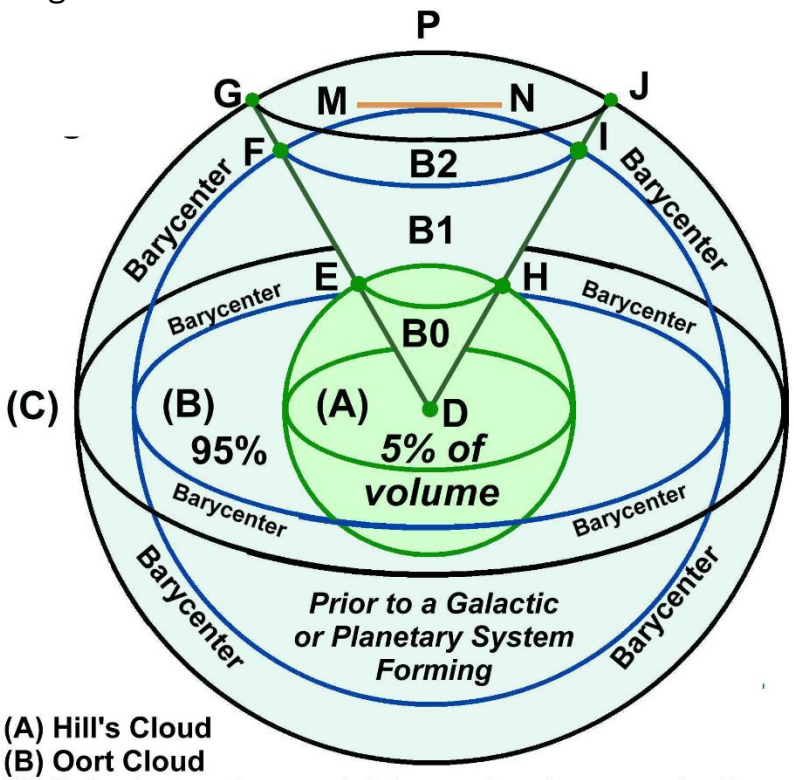
Prologue

Image P1.0



(A) Hill's Cloud
(B) Oort Cloud
(C) Spherical region containing a planetary or galactic system

Dark Matter in a Fluid Universe presents an alternative proposal as to how galaxies and planetary systems might form. The above image is that of both a developing protoplanetary system as well as a developing galaxy. The ratios and principals involved

are the same. The image portrays primordial gases beginning to migrate inward as horizontal and vertical migrations begin. Vertical migration occurs in the form of a central vortex.

You already know what scientists have to say about gravity within the interior of planets or stars, along with extreme forces at play. **CG on Science (CGS)** proposes an alternative scenario, a scenario in which the heavier elements are formed during the birth of a star (prior to the star being fully developed), a scenario in which the heavier elements don't come from some far distant super nova event, a scenario in which the Dark Matter / Dark Energy riddle of the Cosmos is solved.

CGS claims that when a forming star is fully developed, the heavier elements have already been fused. By the time a star is fully developed, fusion of heavier elements will cease. **CGS** claims additional fusion does not occur after a star has been fully developed.

CGS is well aware such claims are quite contrary to what today's scientists believe.

CGS claims are for debate. CGS is about defining various principles which might be more realistic. It is up to the reader to ascertain whose hypotheses might seem to be more plausible.

(A) vs (B) vs (C)

-(A) Everything public schools teach you regarding how galactic and planetary systems form, how galaxies and solar systems come into being.

-(B) Proposals by ***CGS*** as to how galactic and planetary systems form.

-(C) Alternative proposals you might propose as to how galactic and planetary systems form.

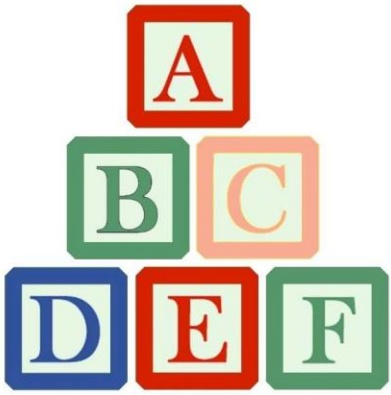
CGS won't tell you which to believe, (A), (B), or (C). What **CGS** will do is provide you with the opportunity to compare various possibilities, to see which possibilities might be most plausible.

When it comes to understanding the Cosmos, scientists increasingly resort to overly complex or extreme solutions. **CGS** strives to provide simpler solutions, solutions in which ever increasingly complex solutions might not be needed to explain how galaxies and planetary systems form. The question you should be asking yourself,

"***Who's explanation might be more plausible?***"

Today's scientists state they have no idea how to solve the Dark Matter / Dark Energy riddle of the Cosmos. ***CGS*** claims to be able to provide that answer, along with many more.

In early elementary school (3rd grade) we were told the more extreme / radical an answer (solution) we derive for something, the more likely that answer (solution) might not be valid. What do you think is happening while scientists try to understand the cosmos, continually deriving increasingly complex explanations for what they observe? Did it ever occur to you those explanations might be wrong, that the premises they were built upon might have been errant?



Basic Building Blocks

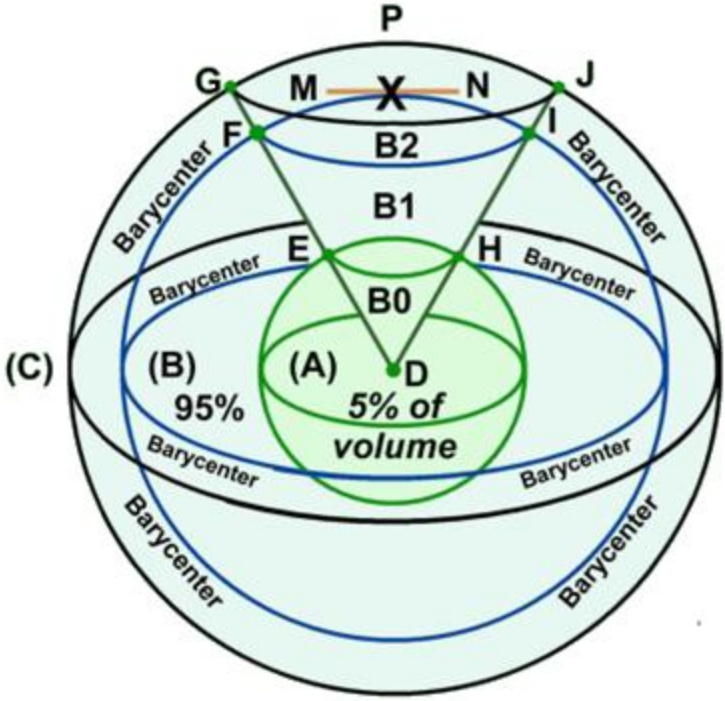
Review the stated pressure and temperatures at the center of the Earth and the Sun. Everyone accepts such claims without question. With the findings of

this book, such claims may need to be reconsidered. **CGS** simplifies the nature of the Cosmos, one in which anyone can learn Astrophysics, one in which complex answers aren't required.

If you believe everything has already been explained by scientists, that all of your questions have been answered, that you have no further questions, then this book isn't for you. On the other hand, if you are willing to look for better explanations than what scientists currently proclaim, this book might be just what you're looking for. ***Dark Matter in a Fluid Universe*** redefines / repurposes some of the basic building blocks you've always assumed were valid; but weren't.

Chapter 1: Migration of Mass Within a Sphere

Image 1.1



Spherical Sector DGJ is within a spherical region two light years in radius. If a galaxy, a spherical region 1.25 million light years in radius. The ratios remain the same. Concentric region (A) is 5% of the volume (5% of the mass). Concentric region (B) is 95% of the volume (95% of the mass.

Hypothesis: *The Hill's Cloud (A) would span 0 to 46,798.4 AU from the center of that spherical region. The Hill's Cloud would contain 5% of the volume (5% of the mass). All the mass of which the Sun and planets are formed would originate from the Hill's Cloud. The mass in the Oort Cloud (the 95%) would never migrate inward to contribute to the formation of a planetary system.*

The inner perimeter of the Oort Cloud is 46,798.4 AU with the outer perimeter of the Oort Cloud being 126,482.2 AU, two light years from the Sun. Having 46,798.4 to 126,482.2 AU inner and outer perimeters would leave the Oort Cloud with a volume equal to 95% of the volume of the spherical region from which planetary systems form. The Oort Cloud would then contain the 95% missing matter (Dark Matter and Dark Energy) scientists claim they cannot find.

(Pg.8) Image 1.1 is the spherical region in space prior to migration of primordial gases forming our planetary system. Prior to migration, think of compressed primordial gases expanding outward from the center of our universe.

Divide the spherical region containing a planetary system into two primary csr's (concentric spherical region's). The innermost region has 37% of the radius, the Hill's Cloud. The outer region has 63% of the radius, the Oort Cloud. The Hill's Cloud contains 5%

of the volume. The Oort Cloud contains 95% of the volume. Prior to migration of any primordial gases, the Hill's Cloud contains 5% of the mass, with the Oort Cloud containing 95% of the mass.

Reference the Spherical sector extract of the spherical region surrounding our planetary system. B0 is the Hill's Cloud. B1 + B2 are the Oort Cloud. 'D' is the center of that spherical region.

(Pg. 8) Image 1.1 can also be used to portray any galaxy along with the spherical region from which the galaxy was formed. The Hill's Cloud would represent the spherical region from which the galaxy acquires primordial gases to form its billions of stars, the 5%. The Oort Cloud is the vast emptiness between galaxies, the 95%.

Line segments

DE = 46,798.400 AU
EF = 55,257.749 AU
FG = 24,426.051 AU

DG = 126,482.2 AU (Two light years)
DG = radius of the spherical region

Volumes of spherical sector having a 30° arc.
Volume B0 = 28,764,473,384,623.5 cubic AU

Volume B1 = 269,554,540,989,017.985 cubic AU
Volume B2 = 269,554,540,989,017.985 cubic AU

Note: B1 and B2 are equal in volume.

Blue line FI (barycenter) is the regional center of gravity in an Oort Cloud.

Define the barycenter of a spherical region as the outer perimeter of a concentric region dividing that spherical region in half. When NASA talks about a barycenter, NASA is talking about the center of gravity between the Sun and an orbiting planet. CGS provides a 2nd definition of barycenter.

csr: Concentric Spherical Region

Think of the vertical gravitational force of the mass contained in csr B2 as being 1g (g not defined). That volume of gas would experience a gravitational force pulling inward towards the barycenter perimeter. The vertical gravitational force of the mass contained in csr B1 is 2.26g. The B1 vertical gravitational force is 2.26 times greater than the vertical gravitational force in csr B2. The volume of gas in csr B1 would experience a gravitational pull towards the barycenter, away from the center of our planetary system, and away from the Hill's Cloud. The vertical gravitational force of the mass contained in csr B0 (the Hill's Cloud) is 1.9g.

Regional gravity directs that the gravitational force of the mass contained in the Hill's Cloud will eventually pull those primordial gases in towards the center of the Hill's Cloud, the center of which will eventually contain our planetary system. The mass contained in the Hill's Cloud is outside of the range of the gravitational attraction of the barycenter of the Oort Cloud.

We have three csr's with three different vertical gravitational forces relative to each other; B0: 1.9g, B1: 2.26g, and B2: 1g. A horizontal gravitational force (MN) is also involved, though that force will be explained later.

Where are all these numbers, ratios, and claims coming from? The first chapter of this book presents the conclusions of research conducted over the past 15 years (since 2009). The rest of the book starting with Chapter 2: Dark Matter, presents the analysis and math leading to the data and conclusions presented in Chapter 1: Migration Within a Sphere. While some of the math is presented throughout this book, the math regarding the spherical section and its ratio's is in the second half of Chapter 6.

When primordial gases first begin to migrate, the csr with the greatest respective gravitational force is where primordial gases first begin to migrate. B1 is where migration first begins, and that is outward with

a force of 2.26g, away from the outer perimeter of the Hill's Cloud, towards the barycenter. Here is where the problem begins, and the reason primordial gases contained in the Oort Cloud can never migrate inward. In **(Pg. 8) Image 1.1**, note the points 'D' and 'P'. Think of those two points as being connected by a vertical gravitational force passing through the barycenter at point 'X'. We are dealing with a huge sphere four light years in diameter, two light years in radius.

As migration of gases within csr B1 migrate towards the barycenter, the density of the barycenter spherical perimeter increases. Notice the orange line MN. Prior to any migration of gases, MN is just a singular point on that perimeter. Think of that point as the gravitational center, while noting that every point on the spherical perimeter of csr B1 is equal in density. However, as gases in csr B1 begin to migrate towards the barycenter, the two points MN spread outward along the concave perimeter of the barycenter.

As those two points move further apart along a concave line, the orange line connecting those two points progressively descends below point 'X' into csr B1. As this happens, the MN (orange line) begins to negate the csr B1 vertical migration. That orange line represents a revised barycenter. As the orange line descends, so does the barycenter.

The gases in csr B1 outward migration also slow down for another reason. Those gases are migrating outward in a spherical cone. The further out they migrate, the more they spread outward horizontally. As the horizontal gravitational force at the barycenter increases, the vertical gravitational force decreases, substantially. When the two forces counterbalance, migration from csr B1 towards the barycenter stops. Any further migration of primordial gases within the Oort Cloud becomes impossible.

What about migration of primordial gases within csr B2?

The gravitational force in each of the csr's is B0: 1.9g, B1: 2.26g, and B2: 1g. Those ratios are given to us by the ratios of Dark Matter / Dark Energy invisible mass (95%) to visible mass (5%). Primordial gases must be compressible for migration to begin. There are three designated regions, B0, B1, and B2. B1 has a gravitational force of 2.26g. The moment regional primordial gases become compressible with a gravitational force of 2.26g, migration within csr B1 becomes possible. However, csr's B0 and B2 have gravitational forces well below what is required. Vertical migration within those two regions can't begin. With a gravitational force of 1g, the gravitational force in csr B2 is never strong enough to compress primordial gases within that region.

Over time, the gravitational force needed to compress primordial gases within csr B0 becomes lower and lower. Eventually, the vertical gravitational force of 1.9g becomes enough to vertically compress the primordial gases within the Hill's Cloud towards the center of the Hill's Cloud. When that happens, migration of the Hill's Cloud gases causes rotation. Rotation causes the Hill's Cloud to flatten into a protoplanetary disk. But then, once the Hill's Cloud compresses into a protoplanetary disk, the Hill's Cloud is no longer a cloud, it's a disk with the Hill's Cloud no longer existing.

Notice the measurements for the Hill's Cloud spanning from 0 AU to 46,798.4 AU. Multiply 2 x 46,798.4 to get a diameter of 93,596.8 AU. With a light year being 63,241.1 AU, dividing 93,596.8 AU by 63,241.1 AU gives us the Hill's Cloud as having a diameter of 1.5 light years. Having a diameter of 1.5 light years should have been sufficient for the Hill's Cloud to contain enough mass (primordial gases) to form the Sun and planets.

However, if the Sun and planets were formed from only 5% of the mass of the planetary system (the Oort Cloud contains the missing invisible 95%), what happens to the claim the Sun contains 99.8% of the mass of the planetary system if only 5% of the mass of the planetary system is available to form the Sun and planets?

The progress of science is strewn with the skeletons of discarded theories, theories which once possessed eternal life.

The essence of that saying is attributed to A. Koestler in his book, “The Ghost in the Machine.” As technology improves, things previously thought to be absolute truths can end up being discarded. Such is the essence of science.

In the case of the Sun, the certainty was regarding the gravitational force of the Sun compared to the gravitational force of all the known planets. As to the Oort Cloud, everything astronomers thought they knew about the Oort Cloud was purely hypothetical. Even to this day, astronomers believe the Oort Cloud extends from 1,000 AU from the Sun to 126,482.2 AU. To be truthful, the outer perimeter of the Oort Cloud is believed to be some 2.15 light years from the Sun. At this stage in human civilization, whether it is 2 light years, or 2.15 light years isn't overly important. In this writing, what matters is the principles and ratios involved.

When the specifics become necessary, actual data can be adjusted. It is a bit like the Alpha Centauri planetary system being 4 light years away or 4.3 light years away. As measurements become more accurate, prior measurements get adjusted. As to the Oort Cloud's inner perimeter being even remotely

1,000 AU, that is simply not possible. It is not possible for the protoplanetary disk to have been a mere 1,000 AU in radius.

COMMENTS

Comments from people familiar with CG on Science research:

1) *"Interesting pamphlet, you're attempting to explain regular, dark matter ratios from a simple model of concentric radii and volume calculations from the oort cluster. This is essentially a similar to the MOND method, where formulas pertaining to gravitation switch from quadratic to linear at a particular radius related to light speed c and Hubble's constant H. Is your work essentially a large-scale emergent structure, given the MOND model? I believe there are many galactic simulations that could validate your model, eg initialized via basic cosmological galactic densities, eg uniformity, entropy."*

Author's response: I believe the MOND model, and the CG on Science model are dissimilar, though the CG on Science model is a large-scale emergent structure.

2) *"Be careful. The Oort cloud is a local phenomenon while dark matter is an intergalactic phenomenon."*

Author's response: Oort Clouds are not unique to planetary systems. Every galaxy has an Oort Cloud. Every group of galaxies has an Oort Cloud. Every Universe has an Oort Cloud. The Oort Cloud is both an intergalactic and interstellar phenomenon.

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3) *"The Oort Cloud is hypothetical. There's no evidence Oort Clouds exist."*

Author's response: The CG on Science model presents an analysis supporting the existence of an Oort Cloud. The Oort Cloud isn't just something within our own planetary system but as something existing in every planetary system, every galactic system, every group of galaxies, and every universe.

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4)*"The top ten models portraying rotation and expansion of the Universe don't support your claims."*

Author's response: CG on Science is about promoting alternative theories which might be more plausible than what scientists currently believe. It is fully expected the CG on Science model will be

different from other scientific models. The CG on Science model does not address the mass element within galaxies as pertains specifically to rotation. Rotation is addressed, but only generally as pertains to rotation when primordial gases within a spherical region migrate inward during the formation of a galaxy or planetary system. The top ten models pertain to rotation after galaxies and planetary systems are formed.

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5) *"The density in the region between galaxies is only 1 atom per cubic meter. Your explanation can't possibly be valid."*

"The average density of the intergalactic medium (IGM) is about one atom per cubic meter: less than a billionth of a billionth of the density of air on Earth." [1]

Author's response: According to calculations presented by Dark Matter in a Fluid Universe, the density per cubic meter in the regions surrounding planetary systems and galaxies is 420 million molecules per cubic meter, not 1 atom as stated. Also, hydrogen in the vastness of space is in the form of a molecule. The math for this is in Chapter 7.

Note: A claim of 420 million molecules per cubic meter is based upon analysis of the Dark Matter / Dark Energy riddle of the Cosmos.

That model portrays the intergalactic medium as containing 95% of the mass in the Universe, the invisible mass. That model strives to establish that mass contained in the intergalactic medium never migrates inward. In such a model, the density between galaxies would be far greater than one atom per cubic meter.

END OF COMMENTS

About the Author...

(Wayne H. Wilhelm)

CGonScience *CG stands for Curious George. An autodidact. A 1972 graduate of Crestview Local High School (NE Ohio). A 1974 graduate of YSU. Joined Mensa in 2008.*

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