Pulsar Planet, Puffy Planet, Protoplanet, Plutoids, Pluto, Plutino, Planetoid, Planetesimals, Planetary Mass Planetar, Planet, Planemo, And Dwarf Planets, Among Others,

A Commentary on the International Astronomical Union's Definition of a Planet

A Case Study in Today's Science Writing and A Spacetime/motion Analysis of the Word-concept "Planet"

By
Charles William Johnson

ISBN 1-58616-485-6
Earth/matriX Editions
P.O. Box 231126, New Orleans, Louisiana USA 70183-1126

www.earthmatrix.com
charles@earthmatrix.com

A Case Study in Today's Science Writing and
A Spacetime/motion Analysis of the Word-concept "Planet"
As Defined by the International Astronomical Union

Table of Contents

A Case Study in Today's Science Writing and

A Spacetime/motion Analysis of the Word-concept "Planet"

As Defined by the International Astronomical Union

Introduction

In ***Part One*** of this brief essay I review and comment how the official defining organizational body, the International Astronomical Union [IAU] defines the word-concept "*planet*" and related terms.

In ***Part Two***, I present a spacetime/motion analysis of the IAU-2006 definition of the term "planet".

In ***Part Three***, I present a brief analysis of the characteristics of a planet from the spacetime/motion perspective in order to demonstrate how word-concepts might represent the kinds of massive bodies in any solar system.

In ***Part Four***, finally, I consider the popular nomenclature of the massive bodies in our solar system.

The theoretical problem at hand involves defining various features of spacetime/motion events into a single word-concept [*i.e., planet*], as will be shown, represents a nearly impossible task. It's like attempting to define what a "real planet" is ---an idealized concept of a planetary body. The search for a one-word-concept to an infinitely rich specificity of matter-energy ultimately contradicts reality itself.

Consider the following opinion:

> "*In an 18 August 2006 Science Friday interview, Mike Brown expressed doubt* ***that a scientific definition was even necessary****. He stated, "The analogy that I always like to use is the word "continent". You know, the word "continent" has no scientific definition ... they're just cultural definitions, and I think the geologists are wise to leave that one alone and not try to redefine things so that the word "continent" has a big, strict definition*." *[www.wikipedia.com "IAU definition of planet". Emphasis mine].*

At this late stage of the game, one may further ask whether it is even necessary to define the word-concept planet. One could view such a task as fruitless, even meaningless, there is, however, something to be learned from the analytical process of attempting to express in words the complexity of spacetime/motion events. The way we speak and write reflects the way we think. Attempting to put into words what exists in reality addresses the purpose in science writing.

This essay seeks to evaluate and clarify the IAU-2006 definition of a planet.

Part One

A Geo-Centric Perspective in Science

Consider certain comments on the IAU web-page [*iau.org*] concerning science writing in general.

> *Q: What is the origin of the word **planet**?*
> *A: The word planet comes from the Greek word for "**wanderer**", meaning that planets were originally defined as objects that moved in the night sky with respect to the background of fixed stars. [IAU-Ibid; emphasis mine.]*

This particular point illustrates how difficult it is to replace a traditional word-concept, such as that a planet, with more exact science writing. Today it is obvious that the planets do not wander as such. They have known orbital patterns and timings.

One could have expected the word-concept "*planet*" to be replaced long ago by a more representative expression for the planetary bodies in our solar system and beyond. One could image an expression such as "potentially-habitable bodies", or anything besides the trait of wandering aimlessly about in the solar system. Any physical trait might be better to define the planets than the idea of a "wanderer" which does not apply to any characteristic of the "planets". Even the idea of wandering across the night sky is hardly noticeable in terms of motion unless through prolonged observation.

Various word-concepts in science and specifically in the field of astronomy are often geo-centric in nature that is, defined as of the perspective and position of Earth.

The word-concept ***'dwarf planet'*** launched in 2006 by the International Astronomical Union suffers from this customary practice. My interest in the word-concepts 'planet' and 'dwarf planet' stems not only from the fact that their 'official' adoption is on weak theoretical ground. Their definitions are still under consideration by the world community of astronomers. Before treating, however, these word-concepts other observations are in order.

For example, consider the word-concept of the astronomical unit [AU]. In a previous essay, I suggested that the **astronomical unit**, the mean distance between the Earth and the Sun [the Earth's sun] be changed. This distance has been historically and arbitrarily employed to measure distances between celestial bodies throughout the Universe.

As far as I know, there is no theoretical or material foundation that substantiates the use of the mean distance between Earth and the Sun to measure astronomical, galactic, or universal distances of celestial bodies. In other words, there is no material spacetime basis that would identify the distance between the Earth and its sun as representing some kind of basic *Universal quantum* as an astronomical unit.

There is no theoretical substantiation in terms of matter-energy, gravity, mass or energy and the like that elementary event throughout the Universe.

In 2000, I proposed employing the distance between the planet Mercury and the Sun in our solar system as the astronomical unit [www.earthmatrix.com/orbital/astronomical_unit.html]. I also suggested the alternative of employing the mean distance between the planet Pluto and the Sun as a possible unitary measurement for the AU. I made that proposal six years before the IAU demoted the planet Pluto to being a 'dwarf planet'. I still maintain that proposal today ---for the same physical reasons, which are Mercury|Pluto form the inner|outer boundaries of the solar system; i.e., multi-gravitational relations as unit one. When Mercury is unit 1.0, then Pluto is 100 on that unit scale.

There is a material basis for proposing either the planet Mercury or the planet Pluto as representing a basic unit of measurement for distances between celestial bodies. The Sun|Mercury relationship represents the identified shortest gravitational distance of the solar system. And, the Sun|Pluto relationship represents the longest gravitational distance of the solar system. The proposal suggests employing either the shortest or longest gravitational distances between the Sun and its planets, as its inner [Mercury] and outer [Pluto] boundaries of the gravitational relationships in the solar system. Gravity is gravity still, no matter whether Pluto is defined as a planet or not.

The historically accepted astronomical unit [AU], based on the mean distance between the Sun and the Earth represents a **geo-centric** word-concept within astronomy here on Earth. The reason that the distance between the Sun and the Earth has been historically chosen to measure all distances in the Universe/Cosmos may be attributed to the fact that we live on Earth. There is no material basis to defining the astronomical unit of celestial bodies as of the relationship of the Sun [a star] with its third planetary orbital body [the Earth].

There is no scientific material substantiation for the word-concept **astronomical unit** based on matter-energy relationships of spacetime in terms of a star with its planetary bodies. One might reconsider such a Universal quantum word-concept at the galactic level; possibly galaxy to galaxy. But, such considerations would require a distinct essay from the one at hand.

Now, if we lived on the planets of Venus or Mars, either of these two planets would have likely been chosen to represent the astronomical unit, given the nature of human reasoning. Living on Venus or Mars, I would still propose ***Sun|Mercury relation for astronomical unit*** measurement. Let us offer the numbers as of the system of distance measurement utilizing the planet Mercury as the unit one (1.0). The corresponding numbers for the ratios would then be:

Mercury	**1.0**
Venus	1.846153846
Earth	2.564102564
Mars	3.8974358
Jupiter	13.333
Saturn	24.46153846
Uranus	49.17948718
Neptune	77.076923
Pluto	**101.333**

Earth/matriX SCIENCE TODAY

Planemo, Planet, Planetar, Planetary Mass, Planetesimals, Planetoid, Plutino, Pluto, Plutoids, Protoplanet, Puffy Planet, Pulsar Planet and, Dwarf Planets, Among Others:

A Commentary on the International Astronomical Union's Definition of a Planet

By

Charles William Johnson

Earth/matriX Editions

ISBN 1-58616-485-6

P.O. Box 231126, New Orleans, Louisiana USA 70183-1126

www.earthmatrix.com, charles@earthmatrix.com