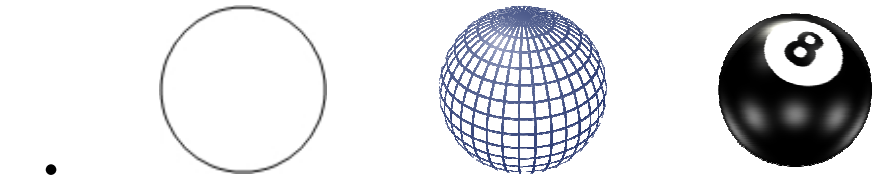
Afterword: Who's in Charge?

In the Observer Physics essays I often discuss and compare the World Space and the Mind Space. In a sense these two aspects of life are very separate and distinct. In another sense they form a unified and holistic reality. In this "Afterword" I will make the case that the Mind Space governs the World Space, and the two spaces arise from a single source that we can call undefined awareness or undefined existence. The question is: who or what (if anyone or anything) is in charge of this undefined awareness/existence?

The Power of Ideas

In the aspect of the Mind Space that we may also call geometry we can imagine certain very simple notions such as point, circle, sphere, and ball. These four notions are related. We can intuitively call a **point** a location in space with no size or extent. Euclid describes it even more generally as "that which has no part." That definition could just as easily define the **universe** as a holistic entity. In terms of the other three notions just mentioned we can call a point a "potential center". Euclid defines a **circle** as "a plane figure contained by one line such that all the straight lines falling upon it from one particular point among those lying within the figure (i.e., the center point) are equal." A **sphere** is a circle rotated around one of the straight lines as its axis and forms a two-dimensional surface in three-dimensional space. A **ball** is a sphere that includes the space within the sphere.



Point Circle Sphere Ball

The figures just described are ideas in the Mental Space, and the illustrations sketched above are drawings that represent physical approximations to those ideas. The sphere and ball are projections into the two-dimensional plane of the page on which the text appears.

These four notions are related, because they all have **a point that serves as a center**, **and straight line intervals in any direction from the center point each fall on the figure at a point equidistant from the center point**. In the case of the point, we have a null interval and null line intervals in which the same point doubles as the two points that define each line and determine each interval, and thus a point constitutes a minimized circle, sphere, or ball – except that **Euclid's definition of a point does not assign any particular shape to the point**. The definitions of circle, sphere, and ball all contain more than one part, since we must have the central point and the set of straight line segments of equal length, each of which terminates in a point on the circumference of the circle or the surface of the sphere or ball. So, for example, our set of mental figures could include a square and a cube instead of a sphere and ball if we think of a potential figure at various scales instead of containing equidistant lines. Or think of the apex point at the top of a triangle or pyramid of any size. Since all the potential "parts" of the

point are shrunk to null size, the point could be any shape you like as long as we nullify all component parts – which means we unitize them into a single entity. In this sense we could "see a world in a grain of sand" and an entire universe in a point.

Now let us actualize these notions (point, circle, sphere, and ball) as physical objects in the World Space.

Exercise: Make a list of examples in the physical world that express and apply the properties of a point, circle, sphere, and ball.

The list goes on and on. Interestingly, man has always been aware of these basic figures of geometry as essential to the design of nature, but has not necessarily applied them widely in civilizations. Why might that be? For example, the ancient Mayans knew about the circle and built fine paved roads, but apparently did not use wheeled vehicles.

The principle behind the notions of point and circle shows up in unexpected areas. For example, consider the fundamental mechanical devices. Humans have not only developed tools as handy extensions of the human body, they have also developed machines. The 19th century scientist Franz Reuleaux studied over 800 types of machines and identified six fundamental mechanical devices involved in machinery: inclined plane, wedge, screw, lever, pulley, and wheel. Of these six, the screw, lever, pulley, and wheel all make applied use of the basic geometry of the point and circle.

Exercise: The motivation for the design and use of tools and machines is to gain mechanical advantage. Consider basic tools such as hammer, saw, chisel, pliers, wrench, knife, scissors, file, drill, scale, and so on. (You can look up images for other tools online.) Which ones make use of the geometry notions mentioned above (point, circle, sphere, and ball)?

Exercise: How does each of the four basic machines mentioned above (screw, lever, pulley, and wheel) make use of the geometry of point, circle, sphere, and ball? List some examples and explain what kinds of mechanical advantage can be gained. What is mechanical advantage? Consider it in the light of the mathematical example we gave in chapter 4 of the Langrangian technique. What goes on with an inclined plane or a wedge?

Exercise: Where is the **advantage** of mechanical advantage? Is it really advantageous? Is it worth it? Or does it merely fulfill a momentary perceived need from a viewpoint of bias (a short-term advantage) that may in the long run cost more in terms of time, energy, money, resources, entropy, pollution, or other factors? Does it end up robbing Peter to pay Paul?

The Basis of Need

Now let us consider a more abstract notion. This time we will inspect the idea of need. We may define need as a belief that something is lacking, that someone must do or have something or else suffer an inconvenience of some magnitude ranging from discomfort to death or even extinction. In the World Space we might say that there is never any need,

because things simply are what they are. The universe is abundant, and things do not have a sense of lack, because they merely exist. When circumstances favor their physical existence, they exist, but if the situation changes, they cease to exist. As potentials or ideas, things always exist -- if you believe in things like Platonic "forms", immortal ideas and concepts that exist independent of the physical world.

When it comes to living organisms, we find that there is a built-in tendency for each species of organism to continue existing and functioning in the style of existence common to the species. However, certain resources are required in order to continue existing and functioning in the basic style common to a species. Primary needs are food (fuel), and protection from excessive environmental stress (shelter, clothing). (Animals for the most part do not make clothing, but commonly devise various forms of shelter and a few animals put together artificial camouflages. Humans seem to have decided that it was more efficient to have a basic body type and prepare various types of clothing to fit conditions rather than evolving specialized decorative or protective body clothing such as shells, scales, feathers, blubber, or fur.) For the community of organisms to survive and grow without interruption, an appropriate system of procreation, gestation, nurturing, maintenance, and recovery is needed in addition to the basic needs of food/fuel, shelter, and clothing. Also, distribution, sanitation, and deliberate recycling are important needs in the case of populations living with high density and an intensity of activity that creates material modifications beyond the natural recycling capacity of the local environment. As organisms evolve, mechanisms for preservation, storage, and transmission of technology are needed to maintain and optimize the growth potential of the community.

Exercise: There can be a huge variety of organisms co-existing in various environments and with many different tendencies, habits, and evolutionary directions including efficient symbiotic relationships. Consider various examples of organisms with various population densities, environmental constraints, and common interests. What types of needs do they have and how do they go about fulfilling those needs? What is the difference between a desire and a need? Are there psychological (mental, emotional, spiritual) needs as well as physical needs? What do you believe?

A machine also has many of the same physical needs that a living organism has. It needs fuel, avoidance of excessive environmental stress, maintenance, and repair. However, machines (as far as we know them) lack the need to reproduce, self-preserve, or even function on their own. A machine without an operator will just sit idly where it is and decay. It has no inherent survival motivation. Machines have needs and purposes that are defined by their creators, but the machines are entirely passive with regard to fulfilling those needs and purposes. If machines begin to be able to motivate themselves proactively for survival and reproduction – and perhaps also even develop psychological needs, such as Marvin the Robot apparently feels in **The Hitchhiker's Guide to the Galaxy**, – then we may have to treat them as living organisms.

Advantage

When there are populations of organisms coexisting in the same or adjacent physical space, they may find themselves competing for the same resources considered necessary

for survival – food, fuel, shelter, and so on. In such a situation an interesting phenomenon often arises – a condition of perceived advantage. We briefly explored the belief in mechanical advantage in the application of ideas to the development and use of tools and machines. Advantage is a belief in the mathematical notions of < and > (less than and greater than) as applied to needs. At present tools and machines are expressions of the beliefs of their designers and users, but the tools and machines do not themselves maintain those beliefs. A hammer does not feel the need to go hammer something. It does not grow sick or die if it does no hammering. It dies if its handle rots away and its head rusts away due to disuse, or if it is broken due to misuse. To survive as a hammer it needs to be maintained in good working order, but it does not need to ever hammer anything. It could be used strictly as a ritual implement or for decorative purposes. It could be totally ignored during its term of existence with no adverse effects.

The belief in advantage takes the form of "I am x-er (or more xxx) than you." The x can signify better, bigger, stronger, smarter, richer, . . . more skilled, worthy, intelligent, enlightened, and so on. Of course, you can flip it over and believe you are worse off, smaller, weaker, and so on. The interesting aspect of a belief in advantage is that among living organisms it easily leads to predation and warfare rather than an equivalence relation that might take the form of symbiosis, fair trade, cooperative agreements, and so on.

Exercise: There is evidence that intelligent life, and on Earth perhaps intelligent human life, has been present endemically or possibly due to migration, for many millions if not billions of years. Recent exo-planet surveys done by astronomers suggest that in our galaxy alone there are on average more than two planets per star. Among these many are probably habitable by the kinds of organisms on our planet. Other forms of life may be completely different than what we experience on Earth. The findings of Observer Physics regarding the role of the observer suggest that **observers** very likely are coeval with the entire evolution of the cosmos and, as optional **proactive creators**, govern its evolution. If that is the case (and our existence is some evidence in favor of the idea), and in the light of what we know about physics, cosmology, mechanics, and mechanical advantage, what do you consider would be the predominant style of stable and sustainable intelligent existence throughout the cosmos? In terms of Palmer's comments about stable realities and unstable transitional "unrealities", what would be the characteristics of the unstable periods of phase transition "unrealities" in societies and environments? (Refer to **OP** chapter 06, p. 21 and **Living Deliberately**, p. 91 for more on stable and transitional states.)

Ethics

Ethics is a set of moral principles or a value system that governs a person's or a group's behavior. It is a belief system used to determine what actions are valid in a given situation and what actions are not. Robert Podolsky (**Flourish!: an Alternative to Government and Other Hierarchies**, p. 23-25) points out that every ethical system has two component parts: (1) a value that defines what it is that we want more of in our lives or what we wish to maximize, and (2) a belief or system of beliefs that describes what actions we are to take to obtain more of the value that we seek. He adds that valid ethics

produce the desired results, and invalid ethics lead to a lessening of what is sought or desired. Podolsky further refines this definition in a practical direction: "**An act is ethical if it increases creativity or any of its logical equivalents (such resources as love, awareness, objective truth, and personal evolution) for at least one person, including the person acting, without limiting or diminishing the creativity of anyone.**" (**Flourish**, p. 21)

Exercise: What is the role of ethics in a society? What does it have to do with science?

Fear

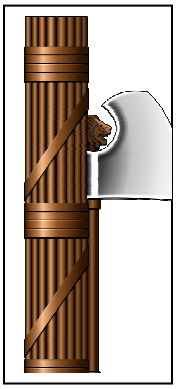
I love Harry Palmer's definition of fear. He says, "Fear is a belief in our inadequacy to deal with something. And that belief precedes any evidence of failure we have collected." (**Living Deliberately**, p. 84.) The question is: **who is in charge**? Fear is a feeling of not being in charge. If you have abdicated responsibility, someone or something else is taking charge, and he (or she or it) does not necessarily have your best interests at heart. Or perhaps you are still in charge but you doubt your ability to handle the situation.

It is fine to delegate responsibility as long as you fully trust and align with your appointed delegate and believe that she can take charge and will satisfactorily handle whatever situation may arise. One of the strangest practices that seems quite common on this planet is to put trust in an invisible being, a "god" or other entity supposedly endowed with superior powers to manage the world. Because the being is invisible, his existence depends on the testimony of someone who has invested himself with authority, or perhaps has been invested by someone else with authority to make claims about the invisible being. Sometimes individuals who claim authority bring forth written documents that make claims purporting to document the invisible being's various powers over various aspects of existence.

Close inspection of these authorities along with their various claims and documents reveals that the claims are just that – claims. Evidence adduced is just that – evidence adduced. My point here is not to criticize one way or another. The claims may or may not be true. The truth value on a practical level is that if a person believes certain claims or evidences to be true, then that becomes the reality of the person's experiences. If the belief is based on pretense (for example, to impress another person or group of people that one is or behaves a certain way), then the purported belief becomes a form of self delusion.

The question is: who is **really** in charge? What do you prefer? It is a matter of personal responsibility. If you choose to believe and trust in a higher power that has your interests at heart (God, your boss, the government . . . .), then you must take the responsibility to accept whatever comes down the pike as being that higher power's decision about what is in your best interest. If the higher power decides that some other interest overrides your personally presumed best interest, then you must accept that decision and recognize that your interests are not so important. Importance is a very subjective issue anyway.

It may be that everyone is God, the Almighty and Merciful, at least in his own awareness. How can one individual arrogate the role of God to himself and not do so to his fellow travelers on the road of life? That would be a clear case of arbitrarily seizing an advantage. Giving that advantage to someone else, be he visible or invisible, and then allying yourself to that person is just another way of seizing an advantage for your self.



If the motivation is to ally as many as possible on your side for the best advantage, then that is fascism, the idea that there is strength in numbers and might makes right.

The *fasces* is a bundle of wooden rods, often bound together by thongs with an axe. Etruscan and Roman officials would carry this bundle to symbolize administrative power. The idea is that a single rod is easily broken, but a bundle bound together is extremely difficult to break. Despite its strength, a bundle of rods is stiff, unwieldy, clumsy, and awkward to handle. Generally it is not very useful except perhaps as a decorative symbol. (See **Wikipedia**, "Fasces" and the back of a Winged Liberty Head [1916-1945] dime.)

Personhood and the Unified Theory

Now we encounter an interesting idea. In the course of the Observer Physics essays I have presented a unified theory of physics that includes all forms of matter and energy. The only way to detect the presence of matter and energy is through the perception of change. Such perception of course occurs through the medium of human consciousness. Undefined awareness is not necessarily subject to change, nor does it necessarily have any focus or purpose. Human consciousness is inherently subject to and characterized by change and therefore consists of some combination of matter and energy. Human consciousness seems habitually inclined to define undefined conditions with boundaries that form beliefs.

We have discovered in the essays that the changes involved with human consciousness (the mental domain of the Mind that consists of variously defined beliefs) precisely reflect the changes involved with the physical domain of the World – what we consider the domain of changes consisting of physical matter and energy. The behavior of consciousness is such that it filters the perception of matter and energy through sets of beliefs that define various aspects of matter and energy from the viewpoint of an individual person. Conversely, deliberate or default changes in human consciousness through variously defined beliefs can precipitate changes in the physical domain of the World.

However, the very notion of personhood is a belief defined by and held in human consciousness. According to our unified theory all persons are subsumed within a single unitary World characterized by a single undefined matrix of undefined awareness. Therefore, each individual person is responsible for the way in which he or she or it imposes any particular definition of personhood on the unitary World and its

corresponding Mind. Any distinction of a multiplicity of persons is due to definitions applied by a local person's viewpoint.

Thus it appears that each person is responsible for the way in which he or she or it defines his, her, or its World. And this leads to a very interesting question: Who's in charge? Who or what determines the contents of the World or the Mind that reflects it in an apparently mirror-like manner?

It seems to me fairly obvious that each individual person is responsible for how the World and Mind get defined for that individual person. However, that is nothing more than my personal viewpoint. Other persons with different viewpoints may decide differently and have different experiences. Viewpoints are particular types of beliefs based on the perceptions resulting from choosing a particular perspective. Any perspective and hence any resulting viewpoints and beliefs are dependent on the person's choice. The decision of making a choice is therefore fundamental to the existence of a viewpoint and any beliefs that it entails.

As I discussed earlier, there is a broad range of choices available for defining viewpoints and other types of beliefs. The result of a decision is the experience of the particular choice decided on. Whoever makes the decision is responsible for the choice that is experienced. How it turns out depends on the appropriateness of the choice given the conditions at the time of the choice and how the choice is implemented via any actions involved.

Experiment: The selection of choices is based on the making of a decision. Consider the various ways in which decisions can be made regarding various choices. Make a list of all the various decision-making processes you can imagine.

Experiment: Once you have compiled your list covering as broad a range of possibilities for decision making, study your list and decide which type of decision-making process you prefer. Carefully weigh all the pros and cons when making that decision, and also consider who is making that decision and how that decision is made. What factors come into play? What are the consequences of that decision? Can you retract or unmake that decision and choose a different one? What happens then?

As you may have discovered, the final result of the explorations in these essays is that you have encountered some ideas and experiences. You may or may not agree with the ideas. The ideas may contain errors and/or omissions. Errors are mistakes – typographical, factual, logical, procedural, and other kinds of mistakes perhaps due to my own lack of understanding. Omissions may range from ideas and information as yet undiscovered by mankind to ideas and information unknown to me or possibly forgotten. You have also encountered some exercises and experiments for exploration. I do not advise rejection of experiences, although that is up to you. The experiments almost all involve procedures that anyone may do safely and with no great inconvenience or expense at home or in some other easily accessible environment. The results of these experiments may be conclusive or open to debate. They may even lead to new

discoveries. Whether or not you actually do the exercises and experiments is up to you, but without doing them in a spirit of open-minded observation, you run the risk of lapsing into a prejudicial frame of mind (oh yes, I know that). It is easy to dismiss something as obvious and easy while missing the subtlety of direct experience.

The essays on observer physics by no means explore all of reality. They foray into selected topics, but I believe those topics tend to have broad-ranging impact on the way we perceive our world. At the end of the day I hope I have made a reasonable case for asserting that observer physics is indeed a new paradigm that is emerging in science. In terms of how you wish to function as an observer – I leave that up to each observer of reality to decide. Whether you prefer a passive or an active stance is up to you. As for an answer to the question "who's in charge", I leave that up to you to decide for yourself, since the answer you select may have considerable influence on how you manage and experience your world.

Perhaps I have not made the case that I set out to make at the start of this little essay. However, I feel I have left space for freedom of opinion within the realm of undefined awareness. And I consider such freedom of great value. How about you? Since freedom entails responsibility, you may think it is not all it is cracked up to be.