THE OTHER PARADIGM - FREEDOM

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ABSTRACT

It is well known and accepted that science is identified with materialism, and has a preference for deterministic explanations. All events in the real world are assumed to have causes that can be mathematically modeled and predicted. Thus anything that looks like a decision is merely the inevitable result of the scientific laws of cause and effect. This has been adapted in the last century to add that those events not mathematically predictable are random events and, though not individually predictable, their distribution is, and follows a bell shaped curve. The idea of making plans or setting goals is considered a delusion referred to as the "intentional fallacy." We can trace this metaphysical system back to its origins in medieval nominalism and in classical times to Aristotle.

Although materialist philosophy is the dominant metaphysics of Western culture, there has always been another metaphysical model which can be traced back to medieval realism and in classical time to the philosophy of Plato. In the last century the inability of materialism to account for freedom and creativity in human beings and in nature has brought a rediscovery of Platonic ideas in the role of communication and decision making in the structure of nature and human societies. The discoveries of gestalt psychology, information systems, and cybernetics have brought ideas back as a central cause in understanding events in the real world, and place freedom at the centre of life. The recognition of the role in natural processes of information and communication, as well as matter and energy, is essential to creating a unified theory of systems.

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GREEK THOUGHT

Greek thought was dominated by two philosophers: Plato and Aristotle. Plato taught that the world was ruled by ideas. The term he used for the central organizing principle of the universe was the "logos." Thus all the branches of study that are concerned with the ideas that control the world use the suffix "-logy." E. g. biology, sociology, psychology, archeology, etc. Plato was, like most Greek philosophers, concerned with moral questions and how moral decisions get made. His final work was called the Laws. The idea that there is a natural order of laws is Platonic.

Aristotle on the other hand taught that the world consisted of substance and "accidens." The distinction is best understood by thinking of the substance as the noun, and the accidens as the adjective. Thus substance is real and the accidens is an aspect of the substance.

Aristotle said that any event had four causes: formal, final, material and efficient. The material cause is the substance, what we call "mass." The efficient cause is what pushes substance around and creates movement, what we call "force." The formal cause is its shape or form. The form of an object was an accidens, merely an aspect of the material reality. The final cause is the purpose that causes the change of form. Aristotle was a biologist so he used the example of the acorn whose purpose is the oak tree.

For fifteen hundred years the dominant paradigm for Western minds was Platonism. Then in the darkness of the Dark Ages the philosophy of Aristotle became dominant. Moderns forget that the enlightenment worldview that we were all taught in school and university is in fact a choice. There is another paradigm. While we are taught that materialism is the only paradigm, there has always been another. Will Durant in his *The Story of Philosophy* (Durant, 1952) presents the great philosophical divide in the following way:

". . . the great battlefield on which Aristotle fought out with Plato the dread question of "universals"; it was the first conflict in a war that was to last till our own day, and make all medieval Europe ring with the clash of "realists" and "nominalists."

THE DEVELOPMENT OF MODERN MATERIALISM

Western science adopted the Aristotelian philosophy. Nominalism argued that ideas were not real unless they referred to a substance. Thus a horse is real, but goodness is only a word with no reality in itself. The argument for nominalism is that the only thing that is real is matter. Thus if you look at my coffee cup the pottery is to be considered real, but the cup is not. The cup is merely an "accidens," an aspect of the porcelain. Clearly the potter can make the clay into any shape at all. Thus the shape of the clay is not really real. Only the clay is real. The material remains constant in a world of change. Thus "cup" is nominal, only a name.

The Platonist, on the other hand, would look at my cup and say that the real thing is the form of the cup. The cup form could be made of any material: clay or silver or gold. It would still be a cup. It is the form that controls the material. Thus the form is a constant in a world of change. The idea is "real." Thus the Platonists were called "realists." It might be worth remembering that Plato had as the motto of the Academy: "Let no one ignorant of Geometry enter." Thus Plato is thinking of circles, squares and triangles. Do circles actually exist? Do mathematical concepts exist? Are they purely "subjective;" handy, but not part of the "real" world?

Looked at rationally there is not much to choose between these two theories. Why did nominalism win out? This theory was adopted in the middle ages for theological reasons. It is the rationale behind the Roman Catholic doctrine of Transubstantiation. Most modern materialists would be surprised that they are clinging to the medieval dogma of the Roman Catholic Church. The doctrine of transubstantiation is that in the

Eucharist, the bread and wine are transformed into the body and blood of Christ. Since it still tastes like bread and wine, how is this possible? The answer is that the taste of the bread and wine is merely an "accidens," a property of the substance and not something real. The real thing is the substance which you cannot taste. It is this substance that has been changed into the body and blood of Christ.

This created a problem for the theologians. Since God is not material, materialism is an atheism. The medieval theologians dedicated themselves to proving the existence of God. Abelard was denounced as a heretic when he said that he believed in God on faith. It would probably surprise modern materialists even more if they knew that not just their materialism, but also their atheism is a product of Roman Catholic Church dogma.

With the theories of motion developed by Sir Isaac Newton, materialism became the basic scientific philosophy. All reality could be understood in terms of mechanics. The basic principle that everything stays the same (inertia) until it is forced to change became the dominant model. All change was the result of external "forces." Matter, measured in kilograms, is a constant. Given the third law of motion, every energy has an equal and opposite energy, energy is also a constant. Therefore these quantities could be described mathematically, and future motion precisely predicted. Matter and energy are constants and therefore real. The determinism of scientific materialism arose.

Today, of course, with the dominance of materialism, the term "realism" has come to mean the exact opposite of what it meant in the Middle Ages. It is a belief that ideas are not real, and only material things are real. And a realist is someone who believes that since material reality only changes by force, therefore only force matters. If you want to understand change you have to look for the forces that caused it. And people who believe in ideas are called "unrealistic idealists."

The mechanistic reductionists also banned the idea of a final cause, and with it the idea of moral decisions. The idea that something has a purpose or final cause was considered a heresy, and branded one as "unscientific."

There was one small problem. The scientific method takes an abstract hypothesis often formulated as a mathematical equation and then develops an experiment to test whether or not that hypothesis is true of the real world. If an abstract hypothesis is merely a subjective notion and by definition not part of the real world then the method is meaningless, since the real world is by presupposition devoid of geometrical form. If mathematical formulae are true of the real world then the real world must contain ideas.

One exception was worked out. Scientists would be permitted to use universals if they were sets, in other words, a collection of individual elements. The whole would be the sum of the parts. Thus they were not arguing for the reality of the set, but only for the reality of the elements of the set. This is called the "quantitative method." The hypothesis to be "rigorous" would have to be expressed as mathematical quantities. This affirmation that only individual elements are real is the root of modern individualism.

The accomplishments of the materialist method are numerous: the invention of the heat engines of the industrial revolution; the discovery of the fossil fuels that are creating global warming; the invention of the atomic bomb and the intercontinental ballistic missiles to deliver them. We stand on the brink of nuclear extinction. This is an impressive accomplishment. But since everything is determined by scientific laws, no one is responsible.

The absurdity of materialism has always been obvious. All of the things that we do as human beings: making plans, making decisions, communicating, writing papers, going to conferences, are defined as "not really real," since they are neither matter nor energy. Making plans was specifically rejected as the "intentional fallacy." Most materialist adopt what I call the "two world model." The objectively real world is a world of matter and energy. But we don't live in the real world, we live in the subjective world. From our subjective world we can observe the real world, and come up with theories about how it works. This belief that we don't live in the world of nature, but in our own special world of objective observation, is the source of the common belief that, after we have destroyed our planet's ecosystem, we can just get in a space ship and fly away.

THE REDISCOVERY OF FREEDOM

The thing about the materialist model is that it works for non-living things. The problem from a scientific perspective comes when we look at living things. Living things are not mechanisms. They are alive. What that means is that instead of being controlled by outside "forces," they are self-controlled. An acorn may not be an oak tree, but it has a plan, and it is waiting for the right circumstances to put that plan into operation.

Darwinian Selection

If we look at the evolutionary record we see constant change. An ecosystem that began with anaerobic bacteria has developed into the complexity of the modern ecosystem. Darwin looked at the evolutionary process and saw a process of selection, or choice. When human beings engage in breeding domestic animals they choose certain traits, and choose which plants or animals to breed based on their traits. Darwin argued that the evolutionary process was also a process of choice or selection. Only the breeder was not the human being, but Mother Nature. Thus the evolutionary process was "natural selection."

The problem then was, how did Mother Nature make those choices? The human breeder does this by allowing the animals with the desired traits to breed, and preventing the animals with the undesirable traits from breeding. Nature, argued Darwin, judges according to the trait of survival. Plants and animals that survived would breed and animals that did not survive would not breed. What qualified a plant or animal to survive was a quality called "fitness." Thus the process of natural selection was a process of "survival of the fittest."

The problem with this definition is that the definition of "fitness" is fuzzy. In nature the definition of fitness was simple: if it survived, it was fit. It was a tautology. When human beings came to define "fitness," it led to the eugenics movement and the holocaust, and a variety of other social depravities defended as "modern evolutionary science."

The materialists embraced Darwinian evolution because it fit into the assumption that what looked like choice was in fact merely a mechanical process. Since nature was conceived as a mechanical process therefore natural section was a mechanical process. What could be more mechanical than death? It was also embraced as a proof that there was no God, only a complex clock-work mechanism.

But the essential insight of Darwin is that change of form is selection or choice. That was a radical new idea.

A Law Is a Decision

But there is another reason to recognize the power of choice having to do with the nature of law. A law is an idea that controls behaviour. There is a law in the Province of Manitoba that says drivers have to stop at red lights. Now that law was a decision of the provincial government. It is a universal. It refers to traffic lights in general, and to cars in general. And drivers obey that law. So if you see a car coming up to a red light you can predict what that car will do. Universals allow us to predict the behaviour of individuals. It doesn't matter who made the law or why the driver obeys it, all that matters is that there is a law that makes behaviour predictable. You can exclude the decision makers from the description, and still make accurate predictions.

This seems trivial when applied to stop lights, but it becomes significant when talking about gravity. If you look at a falling apple and you know the law of gravity, you can predict the behaviour of the apple. You don't need to know who decided that the law of gravity would be a law. That would get you into a theological discussion. You don't need to worry about why the apple obeys the law. Apple psychology has always been a mystery. All you need to know is the law.

This narrowing of vision can be extremely useful, but it means assuming that there are no choices, there are only laws. If everything that happens in the world is governed by scientific laws, the conclusion that follows is that everything is determined. Thus decision making is called "the intentional fallacy." A decision is based on a purpose or intention or goal. If you simple deny the existence of purpose, intention and goals you can deny the existence of decisions. We again encounter the two world model. Human decisions can be discounted as not part of the real world of "objective" reality, but only part of the subjective world of human beings who aren't part of the real world, because they have ideas and ideas aren't real

Telecommunications

The Darwinian idea of selection took on new meaning and significance with the rise of telecommunications.

Are ideas objectively real? Are they "things?" The telegraph transmits messages. Messages are ideas. Messages are real. They are an objective reality. If ideas can be communicated then ideas are things, and have objective reality.

The telecommunications people coined a new word to describe this new thing. They called it "information." And they came up with a definition for it. "Information is a message *selected from a set* of possible messages." (italics in the original) (Shannon, 1948) In other words information is a choice, a decision. Gregory Bateson later defined it as "a difference that makes a difference." (Bateson, 1972) He was trying desperately to avoid using the taboo word "choice." But the reason it makes a difference is because it is chosen.

They also presented a solution to the mind/body problem. If both matter and ideas are real, then how do they relate? Matter and energy are the **media** of information and communication. They carry messages. This is, of course, simply a different way to state the Platonic position that matter simply acts as an expression of the idea.

Gestalt Psychology – Difference and Decision

The Bateson definition is important because it brings us back to the basic theory of perception as choice. A choice is always a choice between alternatives. It presupposes difference.

A presupposition of the objective observer is that we perceive "objects" (things). Thus objective reality is a world of objects. But we do not perceive things. What the gestalt psychologists showed is that what we perceive is difference. If I want to make an actor disappear on stage, I put him in a black costume against a black curtain. It there is no difference then there is no perception. But a difference is not an object. It is neither matter, nor energy. The perception of an object is a decision. When we sense the difference we decide which aspect is the thing, and which aspect is the background. The figure/ground gestalt requires a decision.

On a train when you see another train going past in the opposite direction there is always an uncertainty as to which train is moving, or are they both moving. Which is the figure and which is the background?

Computers

Computers store information as choice. A computer is made up of an immense number of transistors. A transistor can be treated as a gate, either open or closed. Thus the transistor gates can be coded as a series of binary digits or "bits." The gate is either open or closed, 1 or 0, a binary choice.

Computers process information using logic. Logic is based on the basic binary distinction: x or not x. Thus logical processes, called "programs," are also information, and can be stored in the same memory as the data, as a string of 1s and 0s.

The Internet that transmits information between computers transmits it as a string of 1s and 0s.

Cybernetics

Then along came cybernetics, the study of communication and control. Control systems are decision making systems. That's basically what control means. It is the ability to make a decision. What made it worse was that they were building machines, material objects, that were making decisions. The governor controlled the speed of the steam engine. The thermostat controlled the room temperature by deciding, based on the room temperature, and the desired temperature, when to turn the furnace on or off. Decision making was not limited to human beings. Cybernetic systems exhibited intention, teleology, and purpose.

The Gaia hypothesis was disputed by orthodox biology on the grounds that the Gaia hypothesis implied that the biosphere had purposes, namely that it maintained certain key values necessary for life. Thus the hypothesis should be condemned by the scientific community as "unscientific. Lovelock responded by saying Gaia is a cybernetic system.

From the beginning cyberneticists knew that control systems had purposes. That is pretty much what control means. But it applied to both the animal and the machine. If purpose could be applied to the inanimate world then the intentional fallacy had been refuted. There was great excitement among the scientific community because it appeared that it was possible now to have a unified general systems theory. The ultimate victory of

mechanistic reductionism seemed about to be accomplished. The dream of a single mathematical formula that would allow you to deduce everything that has ever happened and predict everything that ever would now appeared possible.

Unfortunately control systems are not mechanistic systems, they are information systems, In other words, ideas. It turns out that things are not controlled by forces, but by ideas. Ideas control matter and energy. Plato was rediscovered again.

FREEDOM

Living things are free in the simple sense that they are self-controlled. They make their own decisions. A problem is some aspect of our environment that we want to change. Every problem is a decision waiting to be made. Living things choose to change their environment. But the freedom to choose is constrained.

Freedom is constrained by history. Decisions are historical. Any decision takes place in the context of previous decisions. For the non-living world those decisions have been made and they are subject to the laws of physics, chemistry, and electro-magnetism. Since we too are made up of matter and energy, we too are subject to those laws.

As living beings the freedom to choose is also constrained by the nature of the control process. Control involves four processes: our environment, our understanding, our available options, and our values.

We are constrained by our environment. The environment constrains our perceptions. Living things make sense of their environment, but we know from gestalt psychology, that we also choose our perceptions. It is possible to change our perception of the world from the single vision of materialism to the binary vision of process dualism.

The environment constrains our options, but we also get to expand our options. We can learn new skills. Finally, every decision is an exercise in values clarification. Free will is the ability to choose our values, goals and purposes. These may be influenced by our culture but they are not defined by them.

A UNIFIED REALITY

Materialism is like the man who rips out one eye and insists that the world is flat because that is all he can see. A binocular vision means using both the eye that sees matter and energy, and the eye that sees information and communication. This is best understood as a figure/ground gestalt. When we look at information, we see it against a background of matter and energy, and when we look at matter we see it against the background of form, or information. We are free to see one or the other, and thus both. This was expressed by Frances Crick and George Gamov as what they called the Central Dogma of Microbiology, that there are two processes inside a cell: energy processes and information processes, and the important one is the information process. Thus DNA is a molecule with a valence, thus matter and energy, but it is also the genome, coded genetic information that controls the development of the organism. The relationship between quantum mechanics and relativity is similar. Thus we need to replace materialism with process dualism, a more holistic understanding.

REFERENCES

Bateson, Gregory (1972). *Steps to an Ecology of Mind*. Chandler Publishing Company, San Francisco, p.484 https://www.generalsemantics.org/wp-content/uploads/2011/04/gsb-37-bateson.pdf

Darwin, Charles (1859), *The Origin of Species by Means of Natural Selection*. Chicago, The Great Books, Encyclopaedia Britannica, Inc. Volume 49.

Durant, Will (1952). *The Story of Philosophy: The Live and Opinions of the Greater Philosophers*. Washington Square Press, Inc., New York, p 59-60

Shannon, Claude E. (1948). "A Mathematical Theory of Communication," *The Bell System Technical Journal*, Vol. 27, pp. 379–423, 623–656, July, October. http://people.math.harvard.edu/~ctm/home/text/others/shannon/entropy/entropy.pdf

Wiener, Norbert (1948). ***Cybernetics: or Control and Communication in the Animal and the Machine.***, The Technology Press, New York, p.155. https://mitpress.mit.edu/books/cybernetics-or-control-and-communication-animal- and-machine-reissue-1961-second-edition