IDEAL ORGANIZATIONAL THEORY

In the unwavering and literal terms of set theory, economic theory and information theory; for all sets, under all conditions where the actors have self-determination the author poses:

Artificial Intelligence = Finite interaction is optimized through oligopical competition, whereas non-finite processes are optimized by the free marketplace. Formal organizational group structure therefore must be oligopical, but their interaction must be free. The individual is a monopoly. Q.E.D.

"A computer would deserve to be called intelligent if it could deceive a human into believing that it was human." – Alan Turing, Founder, Computer Science

What is Artificial Intelligence? This is a question that has transcended human history as the question really ponders "how does one create intelligence?" Modern science contends that computer software can, and will, achieve this milestone.

Ideal organization theory attempts to formulate a methodology for not only what it takes to create artificial intelligence but what that concept really means. The answers are very surprising: according to this theory artificial intelligence simply emerges from highly optimized organizational structure.

"No matter how correct a mathematical theorem may appear to be, one ought never to be satisfied that there was not something imperfect about it until it also gives the impression of being beautiful." – George Boole, Founder, Boolean Logic

While the above is in words and not symbols it is none the less a Boolean equation, and therefore a mathematical equation. The author contends that the text of the equation proves itself and that with a deep understanding of the terminology used no further proof is required.

Elegance is a concept universally appreciated yet seen as much more art than science, when in fact the achievement of true elegance takes a very scientific understanding of the medium. The author contends that the thesis appears to be alive on the page and as such espouses perfection.

"The fear of infinity is a form of myopia that destroys the possibility of seeing the actual infinite, even though it in its highest form has created and sustains us, and in its secondary transfinite forms occurs all around us and even inhabits our minds." – Georg Cantor, Founder, Set Theory

There are two types of marketplaces, those that have a limited number of actors and are informal and those that have a near-unlimited number of actors and are highly formalized. From the perspective of a deterministic set, an informal marketplace has a finite number of actors whereas a formal marketplace has a non-finite number of actors. Collaboration is only possible in a finite marketplace.

While these sets may both be considered finite in a pure mathematical sense, to the deterministic actor they are very different.

"All the world's a stage, And all the men and women merely players; They have their exits and their entrances, And one man in his time plays many parts, His acts being seven ages." – William Shakespeare

Deterministic sets are defined by their finite interactions, which can simultaneously classify the same set of actors in multiple ways. A deterministic actor chooses the roles that they play for themselves, now that's not to imply the actor is intelligent or capable; the choice could be pure randomness. Whether they are accepted in that role is up to the other deterministic actors to recognize.

"Further, the dignity of the science itself seems to require that every possible means be explored for the solution of a problem so elegant and so celebrated." – Carl Friedrich Gauss, Mathematics Prodigy

A merger of philosophy and mathematics in this manor has been seen as ludicrous by some. However these terms have deep connections in mathematics, deeper than the author contends to understand. This level of abstraction, while not currently accepted practice in mathematics, is no less ludicrous than suggesting the Earth is not the center of the Universe.

"The final test of a theory is its capacity to solve the problems which originated it." – George Dantzig, Founder, Linear Programming

If true this equation should lead to the rapid development of exponentially more fair and effective organizations, this is already being tested with Lind Innovation. The key recognition of the theory is that marketplaces are filled with finite and non-finite interaction, and optimization of the marketplace therefore requires two distinct systems.

"For mixed strategies, which are probability distributions over the pure strategies, the pay-off functions are the expectations of the players, thus becoming polylinear forms in the probabilities with which the various players play their various pure strategies." – John Nash, Founder, Modern Game Theory

It is simply reality that among a fixed set of actors that they will use their understanding of each other when interacting. While the term oligopoly obviously has negative connotations since it is mostly used when referring to a small group of actors having control over a supply and the inevitable collusion that results, when the supply and demand sides are finite the collusion becomes collaboration.

"For a good book has this quality, that it is not merely a petrifaction of its author, but that once it has been tossed behind, like Deucalion's little stone, it acquires a separate and vivid life of its own." -Johann Peter Gustav Lejeune Dirichlet, Founder, Dirichlet Distribution Functions

The players strategies leave a lasting impression on the marketplace, as not only can other actors determine their courses differently when dealing directly with them based on the past knowledge of their play, but other actors can also learn from the successes and failures of another actor. This distribution of knowledge is only available in a finite setting.

"Prisoner of War guard companies, or an equivalent organization, should be as far forward as possible in action to take over prisoners of war, because troops heated with battle are not safe custodians. Any attempt to rob or loot prisoners of war by escorts must be dealt strictly with." – George S. Patton, General – United States Army

Marketplaces therefore must recognize situations where the supply and demand sides are fixed, as that collaboration adds critical value to the marketplace in general.

"…the effort of two or more parties acting independently to secure the business of a third party by offering the most favorable terms" – Adam Smith, Wealth of Nations

Competition is another word with negative connotations, when really it is just referring to multi-party bargaining. The negativity tends to resolve around information deception, where parties are untruthful about their true motivations, or even worse capabilities.

In a formalized organization of finite size these issues tend not to exist, otherwise the organization would disintegrate. A free marketplace also has no room for this kind of disinformation, as the contracts being exchanged are commoditized so that the buyer and seller do not directly interact.

Clearly both of these markets already exist in nature, but so do others that are less desirable. The author contends this is a failure of the structure of the marketplace and not of nature.

"…a set of linked activities that take an input and transform it to create an output. Ideally, the transformation that occurs in the process should add value to the input and create an output that is more useful and effective to the recipient either upstream or downstream." – Henry J Johansson et al, Business Process Reengineering

Business process used by automated marketplaces, while certainly streamline objectives, do not allow for collaboration due to the non-finite nature of the actors and activities involved. Even a simple activity from the perspective of a deterministic actor is likely extremely complex and touches unknown actors.

This type of automation often leads to market failure, the greatest of which is speculation. By abstracting the information the extent needed for automation in today's systems the madness of crowds takes over and people tend to chase castle's in the sky, as Burton Malkiel would put it.

"In a capitalist society, all human relationships are voluntary. Men are free to cooperate or not, to deal with one another or not, as their own individual judgments, convictions and interests dictate." - Ayn Rand, Author

The free market must enable all interactions; ironically this is more of an oligopical than free marketplace model since the free marketplace only functions at a high level of abstraction which means actor's true preferences are often unavailable.

"A spider conducts operations that resemble those of a weaver, and a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality." – Karl Marx, Founder, Soviet Union

The hierarchy of an organization may look great in theory, but must also match reality. Idealism is dangerous since changing the behavior of actors, while not impossible, might as well be. The realities of human behavior are no less set than the realities of the laws of nature, and if this theory is correct actually derive from the same methodology.

"…a group is an algebraic structure consisting of a set together with an operation that combines any two of its elements to form a third element." – Wikipedia

Ideal Organization Theory contends that through this organization structure, people will behave the way they always have but their behavior will be optimized and collectively more intelligent.

"Any effectively generated theory capable of expressing elementary arithmetic cannot be both consistent and complete. In particular, for any consistent, effectively generated formal theory that proves certain basic arithmetic truths, there is an arithmetical statement that is true, but not provable in the theory" – Kurt Gödel, On formally undecidable positions of Principia Mathmatica and related systems

When dealing with complex problems it is impossible to prove to all actors which direction is correct. Actors can often only agree to the process for making decisions and not the decisions themselves. Formal organization structure therefore should not go beyond what is agreeable to the actors involved.

"All, too, will bear in mind this sacred principle, that though the will of the majority is in all cases to prevail, that will to be rightful must be reasonable; that the minority possess their equal rights, which equal law must protect, and to violate would be oppression." – Thomas Jefferson, Founder, United States of America

"All human situations have their inconveniences. We feel those of the present but neither see nor feel those of the future; and hence we often make troublesome changes without amendment, and frequently for the worse." – Benjamin Franklin, Founder, United States of America

Free interaction must be moderated by rights and law which protect the minority from the majority. These laws must be as limited in nature as possible, and only change under extraordinary circumstances.

"Even the striving for equality by means of a directed economy can result only in an officially enforced inequality – an authoritarian determination of the status of each individual in the new hierarchical order." – Friedrich von Hayek, Founder Austrian Economics

The actors and sets of actors cannot be directed centrally: only through organization self-organization will the system be fully optimal. The marketplace therefore must allow this to happen without impedance.

"Be not astonished at new ideas; for it is well known to you that a thing does not therefore cease to be true because it is not accepted by many." -Baruch Spinoza, Author of "Ethics"

There are three types of market dynamics in nature, monopoly, oligopoly and the free marketplace. These all have a role to play when developing a marketplace free of market failure. Sets of actors organize themselves in an oligopical form, where they can collaborate. Individual actors are monopolies by definition and their interaction must be free in a free marketplace.

With this kind of organization the marketplace itself will behave as if it was intelligent, and in fact becomes intelligent.

"And thus it's proved." – Latin Translation of: quod erat demonstrandum