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THE DOMINATION FRACTAL: A GAME THEORETIC AND THERMODYNAMIC MODEL OF NETWORKED COERCIVE ORGANIZATIONS

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Abstract
This paper introduces the domination fractal (DF, german: Herrschaftsfraktal) as a scale-invariant pattern by which coercive organization reproduces across levels of society: households, firms, administrations, and states. This work does not deliver an analytical formalism yet but a first draft and empirical motivation. The model treats society as a graph of interacting open systems. Each node exchanges information and resources, and its effective decision space is shaped by constraints imposed by other nodes and physical reality. We define violence as the process of shrinking another node's decision space, power as the capacity to do so, and responsibility as the identification of such power relations. Exploitation becomes feasible when power gradients inflict on exchange interactions, while mediator nodes can extract rents via information asymmetry. Domination is modeled as a control loop: optimization of a cost function that compares "desired" and "actual" states and uses coercion (force, incentives, penalties, and narratives) as means of influence over the future of a subset of the physical reality including society. Under competitive selection, such control loops become autopoietic and self-reinforcing, yielding self-similarity across scales. This paper connects the model to empirical anchors such as hierarchy and compensation, critique of human-capital narratives, statistical physics analogies in wealth distributions, and macro-scaling relations between energy and material stocks alongside affluence-driven impact.
Keywords
domination, coercion, hierarchy, fractals, control theory, game theory, exploitation, entropy, capitalism, inequality

1 | Introduction
To motivate the reader for the ideas presented in this paper, let us consider the following question. How does a power hierarchy solve problems?
Often the organizations of people in division of labour and a controlling structure that coordinates the physical work done, as a power hierarchy. A problem is usually described as a quantitative metric, which is optimized such as a cost function that should converge to a minimum. More complex problem statements might be characterized by quantitative measurements such as surveys of a population.
A central idea of this paper is the following: *What if power hierarchies do not actually solve the given problems, but force the people they have the influence over, to act as if the problem is solved or will be solved soon?*

1.1 | Social Self-Similarity

Fractals are structures whose salient properties repeat across scales. An example of a mathematical fractal is the Koch snowflake: its perimeter can diverge while its area remains bounded. Distribution properties of fractals are typically described by power-laws. As a consequence, fat-tail related black swan events occur and their probability depends on the size of the ensemble under observation. The value of the analogy of the DF is not geometry for its own sake, but a warning: naive measurements can fail when structure is scale-dependent. Social systems exhibit a similar mismatch between what is *measured* and what is *experienced*.

This paper asks: if we list phenomena commonly associated with "capitalism"—inequality, bureaucracy, rent extraction, patriarchy, time pressure, and "I would, but I must pay rent" constraints—are we identifying capitalism, or are we identifying a more general organizational dynamic that survives label changes? The DF model states that many such phenomena arise from a generic pattern of coercive coordination which cause and are the cause of competition (Flink, 2025). We define the set of interactions between people as "society". We refer to the DF as the subset of all interactions that take place under conditions of exploitation. The definition of the word exploitation as used in this paper will be discussed.

2 | Society as a Graph of Open Systems

If we model society as a graph whose nodes are open systems: individuals, households, firms, institutions, or states and nodes exchange information and resources (input/output), we might be able to compress valuable epistemic knowledge from different emergent parts of this very society. Because open systems must manage limited capacity of their own building blocks and input signals, they compress signals into internal representations of their surrounding environment (Conant & Ashby, 1970). The DF model connects sociology with physics via *entropy* as a useful intuition. In this model, the nodes have the properties of stable open systems such as biological life (Lehman & Kauffman, 2021):

- **Constraint closure** is the emergence of non-equilibrium processes with work produced as a constrained release of energy into fewer degrees of freedom. Thus, locally reducing entropy. It is important to stress that work itself constructs the constraints needed for the closure (Montévil & Mossio, 2015).
- **Work task closure** is achieved when the system can perform work to realize constraint closure and further necessary work.
- **Catalysis** reduces the activation energy of a particular reaction, enhancing the rate of certain processes (Wołos et al., 2020). **Autocatalysis** is a specific network of reactions which mutually catalyze each other's formation, an example of a Kantian Whole (Kauffman, 2020).

A system containing subsystems (e.g. chemical reactions) which constraint and catalyze each other's necessary conditions of stable existence is thus similar to the concept of autopoiesis (Achterbergh & Vriens, 2010). Entropy comes into the play, when nodes have certain possible future trajectories at hand. Such open systems can be interpreted as neg-entropy reservoirs. They maintain an inner order while receiving neg-entropy as input and emitting heat in the process. The specific node of interest for the purpose of this paper is of course human, feedback loops of human interaction and the future trajectories which can be identified as decisions pooled from and embedded in a *decision space*.

The graph picture of society has two benefits. First, it makes domination multi-scale by construction: nodes can be coarse-grained aggregates of subgraphs. Second, it highlights that most "economic" quantities are not purely economic; they are signals embedded in power contexts.

Entities such as firms and states can be constructed as emergent objects resulting from a set of interactions of nodes. If such entities are constructed and sustained by a coherent collective action, we can interpret them as nodes in a higher order emergent subset of graphs that transcend emergence levels by interacting with different emergent levels of the DF. Thus interacting with human nodes and other coherent conglomerate nodes such as other firms or states. Similar to the agentic human basis node, these higher order nodes have the properties of stable open systems as well and will behave as if they act on a *decision space* that results from a representation of their environment and a model of themselves accordingly.

It is worth noting, that in the scope of this paper, a human is a neg-entropy reservoir itself and its control and measurement (volume of decision-space) is part of the signal processing pipeline implemented in the DF. A system is stable as long as it can harvest neg-entropy to maintain itself as described with the three statements above.

3 | Decision Space and Control

3.1 | World model

Let a node's *decision space* be the set of actions that are available, given information, resources, and external constraints. The analogy is motivated by statistical physics. The phase space volume gives rise to Boltzmann's entropy definition by simply counting the number of possible micro states given a macro state of a thermodynamic ensemble. Here, it is not of importance how we would actually try to count the number of possible decisions of an entity. We just assume that at least an approximation of such a number can be found, given a proper model of the entity under observation.

We humans are such entities. One way to model our data processing is called predictive coding (Keller & Mrsic-Flogel, 2018; Keller & Sterzer, 2024; Spratling, 2017; Vinck et al., 2025). We are considering to have in common, that we solve an ill-posed inverse problem. We connect to the physical world by specific interactions we interpret as input and output data. The signal processing pipeline emerged by evolutionary selection to maximize fitness. The pipeline has the ability to answer the question: what will be the next set of input data, given the current input data. For this, it constructs a world model which maps a world state to the perceived input data .

With the world *model*, this paper paints a kind of "forward step". That is, modeling a relationship between a world state and the input data (as contradiction-free as possible) which, based on our experience, are most likely to be observed. An entity can interpret improvement of the world model like this: from the difference between prediction and observation it follows that either the assumed world state or the "forward step" is erroneous. If we are confident that the world state does not need correction, the only remaining conclusion is that the "forward step" needs improvement—and therefore the "backward step" needs an update as well. How exactly our brain performs this improvement is an active topic of research and not yet fully understood.

For the forward problem and its corresponding inverse problem we write:

$$F(X) = Y,$$
$$F^{-1}(Y) = X.$$

Accordingly, the real "forward step" is F, and F^{-1} is the "backward step". We denote our brain's estimate of the world by X', and the prediction of the input data Y' by. The prime indicates that it is *our* estimate.

Since F is inaccessible in Plato's cave allegory, physics is the best approximation F'_P that has emerged from the human intellect. By this we mean: physical laws make the best predictions under the constraint of minimizing the occurrence of internal contradictions. To obtain a robust estimate F' for F, we humans need decades of training data and corrective feedback Y. The learning process differs for each individual, because the input data, including genetic code and the surrounding environment, Y is never identical. Our learned heuristics become part of F'.

The estimate Y' for a given actual state X' is compared with observed data Y*, and the error signal is used to improve our world model F'. We understand this improvement as follows:

$$F'^{-1}(Y' - Y^*) \approx \Delta X$$

from which a correction for the assumed actual state X' is generated.

Depending on how reliable the assumption about X' is judged to be, our brain *decides* that X' requires no correction. This leaves only the conclusion that the mapping F', and thus also F^{-1}, must be faulty. Our neurons are reinforcement learning agents. That means they possess only a reward function ("firing in order to be fed") and learn their behavior and strategies on their own under different input data.

From this perspective, we can derive what is called a decision space. This is because the world model F includes the agent itself and thus models the possible interactions with the environment.

The approach is now, to adopt three coupled definitions (Flink, 2025):

- **Violence** is a *process*: the act (or mechanism) of shrinking another node's decision space. Hence, reducing one's actual degrees of freedom.
- **Power** is a *state*: the capacity of a node to apply such shrinking to other nodes.
- **Responsibility** is the *identification of power*: attributing which nodes, structures, and interventions constrain whom.

This framing generalizes beyond physical force. Incentives, penalties, access control, bureaucratic exclusion, and narrative management (e.g. advertisement, propaganda or simply lying about the state of the world X) can function as violence if they effectively reduce available options of an entity.

Regarding violence, the indoctrination of a child to serve the father and not question authority will reduce the likelihood of informal cooperation with other children to overcome the coercive boundary conditions of its own behavioral paradigm associated with its world model. If it is unthinkable to explore potential combinations of decision spaces with other kids, how should adults be able to establish cooperation towards mutual goals? Is it actual force that is reducing the set of actual outcomes and possible decisions or is it just a specific bifurcation in the cognitive development of the data processing of this specific human mind? It was Friedrich Engels who wrote: "*Ideology is a process accomplished by the so-called thinker consciously, indeed, but with a false consciousness*" (Engels, 1893/2004; Roberts, 2025).

3.2 | Control and Domination

Control is the process of *keeping a system within a desired region of states* by continuously *(1) observing* what is the case, *(2) comparing* it to what *should* be the case, and *(3) intervening* so that the difference becomes smaller.

More concretely, control is a closed loop:

- **Measurement:** obtain signals about the current state.
- **Model & prediction:** form an expectation of what the desired state is.
- **Error:** compute the deviation between desired state and observation.
- **Action:** choose an interaction that reduces the deviation.
- **Update:** adapt the model and continue to measure the current state.

Note: When the controlled system includes other agents, *control* often manifests as *constraint*: interventions that reduce their effective decision space. In that case, “more control” frequently means *more coercive closure* of the loop rather than better understanding.

Domination is the reward hack of the controlling paradigma that forces the system under observation as close as possible to its desired state described by the measurement signals. By applying dominance, higher order network effects are neglected and create higher costs of maintaining control in the long run.

4 | Exploitation as a Local Cell in the Graph

4.1 | Two-node exploitation cell

Consider two interacting nodes with a power gradient. Exchange is always also information exchange; a power gradient enables systematically “unfair” exchange because the weaker node must accept terms to avoid worse constraints.

We call an exchange **exploitation** when:

- the transaction content would change if the power relation between the nodes would change,
- and the more powerful node extracts profits from the other node,
- which distributes advantage to the rentier and disadvantage to the exploited node.

With this definition, similar to violence, exploitation becomes a quantity which is non-negative and non-vanishing.

In the scope of this paper, prices are interpreted as *indicators* of a power context rather than signals of resource allocation. A central intuition is that *profit* can be interpreted as a measure of control. In a limiting case of maximum gifting, profit is called a donation; the relevant variable becomes not extraction, but the deliberate expansion of another node’s decision space. This highlights that the same physical transfer can be framed as domination or as care, depending on the control architecture surrounding it. We can also note that exploitation can be described as a commodification of a subset of one's decision-space. This is because the exploited node agrees to a reduction of its decision-space volume.

4.2 | Three-node mediator and fees

Add a mediator node that sits between two others. If it controls routing or has information asymmetry, it can extract fees (rents) to broker the exchange. This motif repeats: payment processors, landlords, platforms, compliance bodies, and bureaucratic gatekeepers instantiate mediator nodes whose leverage arises from chokepoints in information and access.

In a cooperative setting, the mediator would support the others with sufficient information in order to increase the likelihood of future interchange between the two other nodes. The goal would be to subsequently reduce the need for a mediator. In a competitive setting, the mediator will exploit its position and keep the two other nodes dependent.

Since we can now apply these definitions to our observed social structures, we find that the DF consists of a dense net of intertwined two- and three-node exploitation cells. The signal processing that emerges over this graph has all kinds of different top-to-bottom and bottom-to-top feedback loops and gives birth to a lot of phenomena of strong emergence (Schmickl, 2022).

5 | Construction of the DF

By convention, a node that has access to more neg-entropy via power has effectively an increased decision space when it maintains access over other nodes. If we order the nodes of the DF with increasing access to neg-entropy from bottom to top. This includes not just power over other nodes, but access to other neg-entropy storage such as machines, infrastructure, information vendors, resources or weapons. This gives us a landscape of nodes of different heights. Connections that are exploitative change the position of a node in this network from bottom to top.

5.1 | Informal Cooperation and Nash Equilibria Under Hierarchy

This paper explicitly contrasts *informal cooperation* with the *Nash equilibrium*. A key claim is that coercive hierarchies shape payoff matrices: rules, constraints, and enforcement are not neutral background conditions but active parameters that steer actors toward equilibrium behaviors that stabilize the hierarchy (Flink, 2025).

From our own experience, we can observe that many decisions in life require additional consideration with respect to the power context, e.g. which laws apply, given a monopoly on power. This perspective interprets the coercion system as a structure that permits certain actions by raising costs of others. The DF enables us to grasp that we are usually nudged to a plenty of nash-equilibria and that the corresponding decisions would not take place in the absence of a power hierarchy that enforces its laws. Informal interactions with friends and family that are not moderated by such laws can be interpreted with informal cooperation. Thus, cooperation is more likely to happen between nodes of similar power (height in the DF). Interactions in the outside world of legal activity and capitalist consumption are usually between nodes of different power. Thus, horizontal interactions contrast vertical interactions in a game theoretical manner.

6 | Capitalism

6.1 | Autopoiesis and self-reinforcing stability

A central result of this paper is that domination is *autopoietic*: it maintains and reproduces itself. Control loops tend to expand the scope of what they control, because deviations from desired states are interpreted as reasons for more intervention. This resembles the way living systems maintain themselves by performing work on themselves and their environment (Kauffman, 2020). Under competition, the systems that become better at self-maintenance and enforcement tend to persist. This is the reason why some power hierarchies are stable patterns in space time compared to the average life span of a biological human.

6.2 | Gradient Descent Metaphor

We suggest interpreting data streams along the DF as machine learning: signals flow through the graph, are compressed into metrics, and are used to update behavior. Two metaphors are emphasized (Flink, 2025):

- **Backpropagation downward:** fees, penalties, and incentives propagate constraints to lower nodes (workers, consumers, claimants).
- **Profit distribution upward:** extracted surplus concentrates at higher nodes (owners, administrators, rentiers), increasing their control capacity.

A crucial thesis is that **capital accumulation is not the objective function** that is maximized in this learning paradigm. Rather, the objective is **predictability**: coercion reduces the complexity of the environment by forcing it into legible, manageable states. In this view, domination is "reward hacking" the control paradigm: proxies for control (money, key performance indicators, compliance artifacts) replace the underlying purpose, and coercion stabilizes the proxy.

This means that the end-game of the economic system is not welfare or wealth accumulation. These are merely surrogates that hide the fact that if humans cannot be maintained in the control paradigm of the DF, they will be forced to comply or be killed. In general, the emergent complexity of life is contradicting the predictability goal of the DF. This is because of the well known phenomenon called determined chaos studied in a wide range of sciences such as cellular automatons (Grassberger, 1984), dynamic systems which yield strange attractors such as the Lorenz attractor (Lorenz, 1960). We can observe that the extraction of neg-entropy from the biosphere usually increases entropy in the object that was extracted. E.g. A forest is a highly complex network in which a tree serves a multitude of interwoven purposes (functions). To cut it down and to transform it into a table reduces the number of purposes (its functional properties).

6.3 | Economic Metaphors: Price

In the DF framework, price formation cannot be treated as a purely technical matching of supply and demand. Markets are not neutral spaces; they are embedded in a power structure that emerges *within* the market itself. For that reason, a theory of price formation must couple economic interaction to the concept of power. Prices are best understood as compressed social signals: they express a game-theoretic valuation under concrete asymmetries in bargaining power, dependency, and available alternatives. At the same time, prices are not merely descriptive. They also feed back into the system as incentives and thereby actively shape future behavior.

A minimal approximation is to decompose the transaction price of a good into two terms or factors,

$$P_g = C_g + R_g$$

or

$$P'_g = C'_g \cdot R'_g$$

where C_g denotes the production-cost term and R_g the additional rent, fee, or profit margin extracted by the actor controlling the relevant chokepoint. P'_g and R'_g on the other hand correspond to a rent that is proportional to the underlying costs that are a function of the DF. It is an open question if a quantitative analysis of actual prices in the markets will favor one model over the other or if the best fit is a hybrid such as $C_g(P'_g)$ where the first is a function of the latter. C_g or C'_g are constrained by material and organizational conditions such as energy, necessary labor-time, coordination, and input requirements. R_g or R'_g depend on the social context: they reflect how much can be extracted from customers, workers, or dependent downstream actors. In this sense, profit is not an independent substance, but a function of the surrounding power relation.

This also implies that production costs are themselves socially structured. They are not primitive givens, because each producer buys inputs at prices already shaped by other power relations. Actors located lower in the DF must pay more upstream fees and therefore pass these charges onward. Hence, prices accumulate along supply chains not only through transformation costs but also through stacked rents. This provides a simple explanation for why structural disadvantage is expensive: agents with little bargaining power are exposed to a larger cumulative burden of fees, markups, and dependencies across the chain of reproduction. The poorer a person, the more expensive sustenance becomes. This is described by the famous “boots theory” popularized by Terry Pratchett: poverty creates a trap where short-term constraints force choices that are costly in the long term (Pratchett, 1993; Wikipedia contributors, 2025). In our language: restricted decision space amplifies future restriction.

This becomes obvious when considering the amount of additional costs of a lower node in the DF that stack on each transaction in the economy. Because the profit signal from the higher altitudes of the fractal are distributed to the bottom while most of the nodes in between add additional profits on top.

The same perspective clarifies why a price theory must account for what is *not* priced. Observable market prices often include only narrow opportunity costs while excluding broader damage, depletion, and social harm. Externalized costs are therefore not exceptions to the system but regular features of a valuation process organized under asymmetric power. Price formation is thus not just a matter of accounting for work performed; it is also a selective filtering of which consequences count and which can be pushed outside the transaction.

6.5 | Economic Metaphors: Inflation

Increases in the prices of essential goods such as food, rent, and energy can be analyzed as changes in the power context that reduce the effective decision space of lower layers. For households near subsistence, raising the price of necessities is functionally close to lowering wages: both compress disposable income toward fixed-cost coverage and thereby preserve dependence on wage labor. Inflation in essential sectors can therefore be interpreted not as a monetary phenomenon but as a distributional and organizational mechanism within a broader structure of domination. The shrinking of available decision space is manifested in the percentage of the wage that will be spent on mandatory life necessities. The less time and thus decision space is left per month, the less likely it becomes that informal cooperation will occur in the population that is under the effect of the DF, e.g. a population of a nation state or workers in an amazon warehouse.

6.6 | Economic Metaphors: Financial Bubbles

Financial bubbles are typically associated with the extraction of profits from informational circuits that are not coupled to a surplus-generating capitalist mode of production. What unites them is that their foundation does not draw neg-entropy from the biotope or from human labor power; rather, as is characteristic of Ponzi schemes, payouts are financed through the ongoing recruitment of an exponentially growing number of new first-time investors into the pyramid structure. Once the number of new entrants reaches saturation and can no longer increase, the house of cards collapses. Characteristically, the timescale of collapse is generally far shorter than that of the Ponzi scheme's growth process.

As long as the payments of the circuit are flowing, the bubble does not burst. Big Bubbles usually remain stable as long as they are growing and collapse as soon as investors withdraw their investments. The framework of the DF enables us to identify financial bubbles with open systems according to the definition in the second chapter.

6.7 | Economic Metaphors: Universal Basic Income

Universal Basic Income (UBI) as a means to provide living standards in a subset of the DF that is increasing the pressure by reducing the available decision space of the population, is not a viable counter strategy in the long run. Since a fixed offset to the income of each participant of the population can simply be added to prices that each participant of the population have to pay monthly. Because prices are considered a purely social category, the important information is represented in price relations, thus its contrast to other prices. In other words, if each human is given a fixed amount of money as a gift each month, nothing disables the rent extracting nodes in the DF to add a certain number to fixed costs such as the rent payments or the electricity bill. As long as the relative position in the DF is unchanged, so is the actual trajectory of the society.

Seize the means of computation and seize the means of production!

If domination is a control architecture, then purely monetary interventions will fail to dissolve it. A UBI can expand local decision space temporarily because the time evolution of the DF is in itself a non-equilibrium process, but if the graph's chokepoints, enforcement mechanisms, and narrative control remain, the system can re-stabilize domination through rent extraction, metric substitution, and re-centralization of access.

Breaking the DF therefore targets the generator:

- **Reduce chokepoints:** diversify access and routing, limit mediator leverage.
- **Increase legibility *to the governed*:** transparency as counter-control.
- **Decentralize decision rights:** keep context near action to reduce coercive compression.
- **Protect informal cooperation:** widen the feasible region outside imposed Nash equilibria.

These are design principles rather than utopian claims; they aim to change the control loop, not just the personnel at its center.

7 | Empirical Anchors

7.1 | Hierarchy and Human-Capital

Baker, Gibbs, and Holmström provide a classic empirical case study on hierarchies and compensation (Baker et al., 1993). The structural consequence: the number of nodes below a given rank can grow rapidly with hierarchical level, which makes upward positions structurally leveraged and amplifies concentration dynamics. Blair Fix critiques simplistic human-capital explanations of income, highlighting that institutional structure and hierarchy can dominate "skill" narratives (Fix, 2018). There it is reported, that if one tries to find the correlation of workers income to i) age of the person ($R^2 = 0.03$), ii) years of experience in the firm ($R^2 = 0.16$), iii) years of education ($R^2 = 0.09$) are all below a correlation coefficient that can explain differences in income. Even a linear combination of the three measures above that maximizes the human-capital claim can only find a value of $R^2 = 0.27$.

On the other hand a double-log plot of income as a function of hierarchical power (number of subordinates + 1) yields $R^2 = 0.88$. It is important to note that this relation is typical for fractals, because of the inherent power-law characteristics of self similarity. This supports the DF framing: income is not just productivity; it is a position in a social hierarchy that has fractal properties not in a cartesian geometry but in a social space.

So it is not enough simply to be capable of doing physical work to be considered a successful individual inside society. Rather, the myth of the meritocratic society is a naive misreading of Bayes' theorem. Accomplishing something is a necessary but not a sufficient condition. The DF presented here is a structure of permission. Only those who occupy the relevant nodes are in a position to contribute at all to the social division of labor. On the other hand, the income corresponding to a node, depends on the ratio of accumulated bargain power in the power hierarchy of the firm and the accumulated neg-entropy that is the result of the subsystem represented by this very firm.

7.2 | Boltzmann–Pareto Distribution

Yakovenko's econophysics surveys and updates emphasize regularities that resemble statistical mechanics: exponential-like bulk income distributions with Pareto tails for the top (Yakovenko, 2007, 2023). We can interpret these regularities as evidence that inequality is not merely a set of isolated moral failures but an emergent property of interacting agents under constraints. The *natural* Gini-coefficient of a Boltzmann distribution is 0.5. The fat tail measurements increase this metric, which is a common measure for inequality in capitalist societies. This tells us that the DF enforces a social structure which deviates the Gini-coefficient to a purely artificial state that is maintained by additional consumption of neg-entropy (surplus work and fossil energy). Such a power-law fat tail distribution of wealth can be translated to a larger decision space accumulated in single nodes.

The existence of such nodes increase the likelihood of black swan events (Clauset et al., 2009; Malamud et al., 2005) such as a third world war, a flash crash, a nuclear winter, the collapse of civilization or nation states because of the possibility of mismanagement that influences superstructures corresponding to large subsystems of the DF that are in direct command of such single nodes.

The Boltzmann–Pareto threshold that can be measured empirically tells us much of a population has no access to financial assets. Thus, one needs to make a living by somehow getting enough cash flow to make ends meet. This is an empirical evaluation of the Marxist claim that there is a conflicting class struggle. The majority of each population under the capitalist production paradigm has to obey orders. For them, it is a matter of survival to obey as if they are means of production. This emphasises the tool-like character of the worker identity as a neg-entropy reservoir ready to be used by a rent extracting commando hierarchy.

Nevertheless, even the higher nodes in the DF are inflicted by coercion as well. They themselves need to perform in a certain way in order to at least remain at their position in the DF. And instead of feeling the pain as a result of exploitation, they might feel more of Weltschmerz because they accumulated more decision-space and have much higher degrees of freedom, thus free time to think about the state and the increased opportunity to change the future trajectory of the world. Because all humans are part of the biotope, there is no escape from the ultimate failure of the species considering the poly crisis (e.g. 6^{th} mass extinction and climate change). This includes the well offs and their offspring.

As Wilkinson and Pickett famously stated in their book about the Gini-coefficient 'The Spirit Level': “[...] Equality is Better for Everyone”.

7.3 | Energy, materials, and macro scaling

Leiva and Schramski investigate macroscopic relationships between energy use and material stocks and connect them to Kleiber-like scaling (Leiva & Schramski, 2022). This motivates a physically grounded interpretation of economic systems as transformation processes: inputs as energy stores, outputs as reorganized energy stores, with allocation mediated by power context.

7.4 | Affluence

Wiedmann *et al.* argue that affluence and high consumption are major drivers of unsustainability (Wiedmann et al., 2020) (surplus work and fossil energy). They show that global GDP is directly correlated to resource extraction and emissions. The super structure that is implemented on top of the society has no consciousness building world model feedback loop. On the contrary, the more opportunity for neg-entropy harvesting, the faster the extraction becomes (known as Jevons paradox (Alcott, 2008)).

In the DF framing, affluence is not merely a lifestyle; it is a stabilized configuration of decision-space expansion for some nodes coupled to decision-space contraction and externalization for others. The power structures that emerge from our interactions are controlled by a smaller number of nodes compared to the number of nodes that work to create and maintain it. These structures can be interpreted as physical leverages which can manipulate energies, thus perform work, at much higher magnitudes then single humans could do (e.g. nuclear power plants, rockets, cities and more).

The main signal from the bottom to the top of the DF is the profit signal. Critical information is lost in the data compression performed by the nodes that behave according to their local Nash equilibrium resulting from the payout matrix formed by nodes above. The controlling problem of these structures require organization and communication protocols which contradict this paradigm.

A central claim of this paper is that power hierarchies can not fulfill its own requirement of sustaining themselves in the complex environment without externalizing their own contradictions as damage to the biosphere (including humans) eventually yielding its own demise. This is because the complex environment obeys the laws of determined chaos in which small differences in the world state, results in exponential differences of the world state in the long run.

8 | Conclusion

The DF model treats coercion as a self-similar emergent pattern in networks under competitive pressure. By grounding domination in decision space, control loops, and information bottlenecks, it explains why many "capitalism-like" pathologies persist across ideological labels: the generator is organizational systemic, not merely rhetorical.

The core thesis can be stated compactly: *domination is a reward hack for predictability*. If that is correct, then research and policy should focus less on moralizing individual outcomes and more on diagnosing and redesigning the control architecture that reproduces them. To overcome the seemingly fatalist interpretation, an informal network of cooperation needs to establish a decentralized consciousness of human interaction as a counter measure to the convergence properties of the DF to build ever higher monopoly-like structures that can not solve the set of all underlying problems but only force the environment into a state of lifeless non-complexity which trivially solves all problems by basically killing as much of emergent complexity on earth as needed.

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