

From Objects to Wisdom

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A Three-Level Framework Linking Systems, Action, and Co-Creation

Abstract

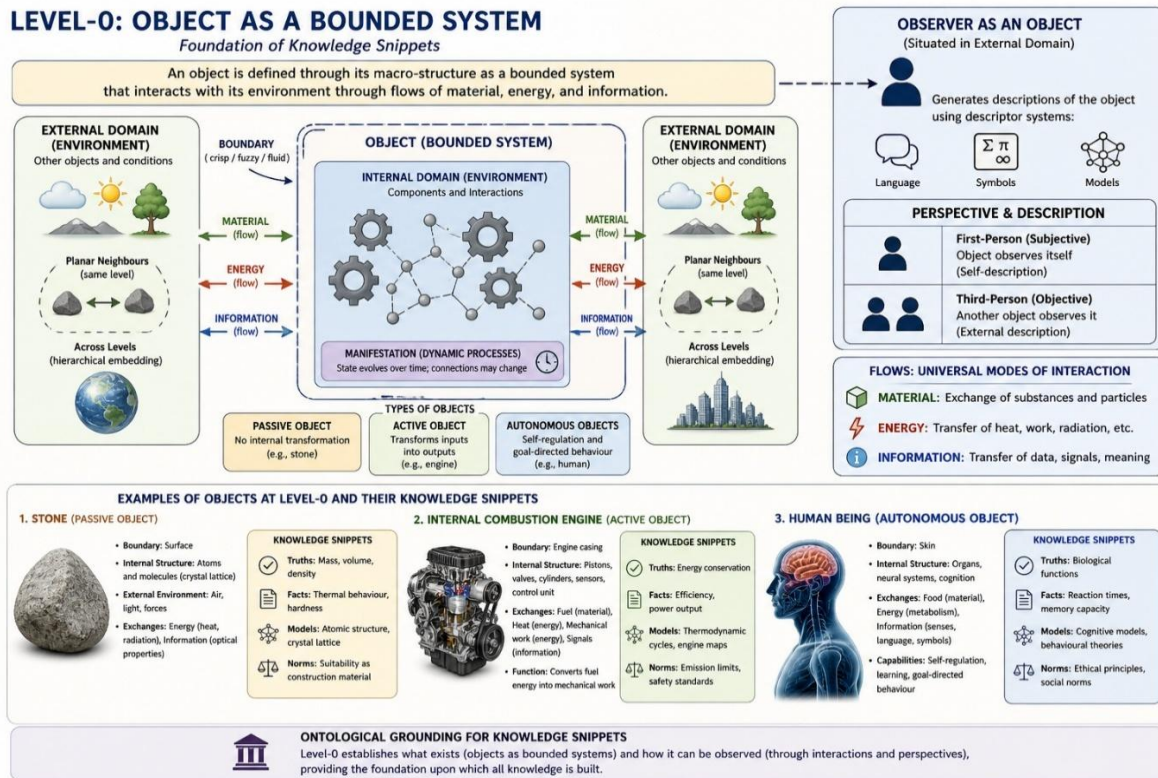
This essay develops a three-level framework for understanding objects as systems and integrates it with the Pragma-sophy constructs of Knowledge Snippets (KS), Action Snippets (AS), and Wisdemic Snippets. At Level-0, an object is defined as a bounded system comprising an internal domain and an external domain, interacting through material, energy, and information flows. At Level-1, the object is described through its structure, state, interfaces, functions, and behaviour, enabling the formation of structured and predictive knowledge. At Level +1, objects participate in roles, processes, and organisations, giving rise to agency, action, and evaluative meaning. The integration of KS and AS across interacting agents produces Wisdemic Snippets, representing co-evolving knowledge and action, oriented toward benevolent co-creation. Through examples drawn from passive, active, and autonomous systems, this essay demonstrates how the progression from existence to operation to participation provides a unified framework for understanding reality, guiding action, and cultivating wisdom.

Introduction

Any serious attempt to understand the real world must begin with a careful clarification of what is meant by an “object.” In everyday usage, objects are treated as given entities—stones, machines, organisms—but in disciplined inquiry, an object is more precisely understood as a **system under study**, delineated by an observer for the purpose of analysis, interaction, or intervention. This act of delineation introduces a boundary, and with it, a distinction between what lies inside and what lies outside. From this simple but powerful act emerges a structured way of thinking about reality, one that accommodates both physical systems and abstract constructs.

However, identifying an object is only the beginning. To understand how it behaves, how it contributes to larger systems, and how it should be engaged with ethically, we require a layered framework. The Pragma-sophy approach proposes such a framework through three levels. The first level establishes the ontological identity of the object. The second level provides a detailed characterisation that enables knowledge formation. The third level situates the object within networks of action, purpose, and value. These levels correspond naturally to the constructs of Knowledge Snippets, Action Snippets, and Wisdemic Snippets, thereby linking description with action and action with wisdom.

Part I: Level-0 — Object as a Bounded System (Foundation of Knowledge Snippets)



At Level-0, an object is defined through its macro-structure as a bounded system consisting of a boundary, an internal domain, and an external domain. The boundary serves as the demarcation that separates the object from the rest of the world, and it may be crisp, fuzzy, or fluid depending on the nature of the system. Within the boundary lies the internal domain, or environment, which contains the components of the object and their interactions. These components form a structure that supports dynamic processes, referred to as manifestation. Outside the boundary lies the external domain, or environment, which includes other objects with which the object interacts. These interactions occur both at the same level, through planar neighbours, and across levels, through hierarchical embedding in larger systems.

All interactions, whether internal or external, are mediated through flows of material, energy, and information. These flows constitute the universal modes of interaction and are sufficient to describe the exchange processes of physical, biological, and informational systems. The object is inherently dynamic, possessing a state that evolves over time and connections that may change as relationships are formed or dissolved. Based on its internal capabilities, the object may be classified as passive, active, or autonomous. A passive object does not perform internal transformations, an active object transforms inputs into outputs, and an autonomous object exhibits self-regulation and goal-directed behaviour.

A crucial element at this level is the observer, which is itself an object situated in the external domain. The observer generates descriptions of the object using descriptor systems such as language, symbols, or models. When the object observes itself, the resulting description is first-

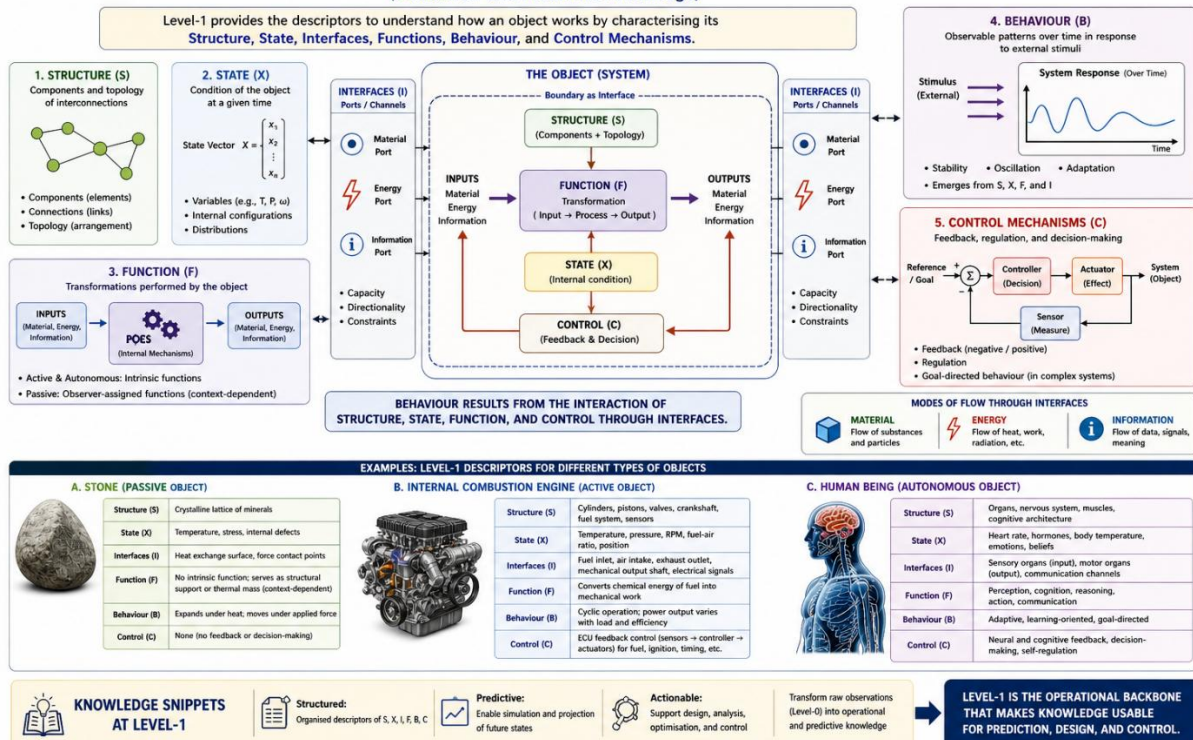
person and subjective; when another object observes it, the description is third-person and objective. This distinction establishes the epistemic foundation for knowledge and highlights the role of perspective in shaping understanding.

To illustrate, consider a stone as a passive object. It has a boundary defined by its surface, an internal structure composed of atoms and molecules, and an external environment consisting of air, light, and forces. It exchanges energy through heat and radiation and conveys information through its optical properties. At this level, a Knowledge Snippet about the stone may include truths about its mass and volume, facts about its thermal behaviour, models of its internal structure, and norms regarding its suitability as a construction material. Similarly, an internal combustion engine, as an active object, is defined by its boundary, internal components, and exchanges of fuel, heat, and mechanical work, leading to Knowledge Snippets about energy conversion and efficiency. A human being, as an autonomous object, introduces complexity through cognition and learning, giving rise to Knowledge Snippets that include behavioural models and social norms.

Thus, Level-0 provides the ontological grounding for Knowledge Snippets by establishing what exists and how it can be observed.

Part II: Level-1 — Functional Characterisation (Structured and Predictive Knowledge)

LEVEL-1: FUNCTIONAL CHARACTERISATION (Structured and Predictive Knowledge)



While Level-0 establishes the existence of the object, Level-1 provides the descriptors necessary to understand how the object works. This level introduces a detailed characterisation of the object in terms of its structure, state, interfaces, functions, behaviour, and control mechanisms. The structure of the object is defined by its components and the topology of their interconnections, which determine how internal interactions occur. The state of the object is represented by a set of variables that capture its condition at any given moment, such as temperature, pressure, or internal configurations.

The boundary of the object, which at Level-0 serves as a demarcation, becomes at Level-1 an interface characterised by ports or channels through which material, energy, and information flows occur. These interfaces have properties such as capacity and directionality, which influence the object's interactions with its environment. The function of the object describes the transformations it performs, typically expressed as input–process–output relationships. For active and autonomous objects, these functions are intrinsic, arising from internal mechanisms. For passive objects, however, functions are often assigned by observers based on context, highlighting the interplay between object and observer.

Behaviour refers to the observable patterns of the object over time, particularly in response to external stimuli. It emerges from the interaction of structure, state, and function and may exhibit stability, oscillation, or adaptation. In more complex systems, control mechanisms introduce feedback and decision-making capabilities, enabling regulation and goal-directed behaviour.

Revisiting the example of the stone, Level-1 descriptors include its crystalline structure, its state variables such as temperature and stress, and its interfaces through which it exchanges heat and force. Although it lacks intrinsic function, it can serve as a structural element or thermal mass depending on context. Its behaviour is limited to passive responses such as expansion under heat or motion under applied force. In the case of the internal combustion engine, Level-1 descriptors include its mechanical structure, thermodynamic state variables, and interfaces for fuel, exhaust, and mechanical output. Its function is the conversion of chemical energy into mechanical work, and its behaviour is characterised by cyclic operation and efficiency variations. For a human being, Level-1 descriptors encompass physiological and cognitive structures, dynamic states, sensory and motor interfaces, and functions related to perception, cognition, and action, with behaviour that is adaptive and learning-oriented.

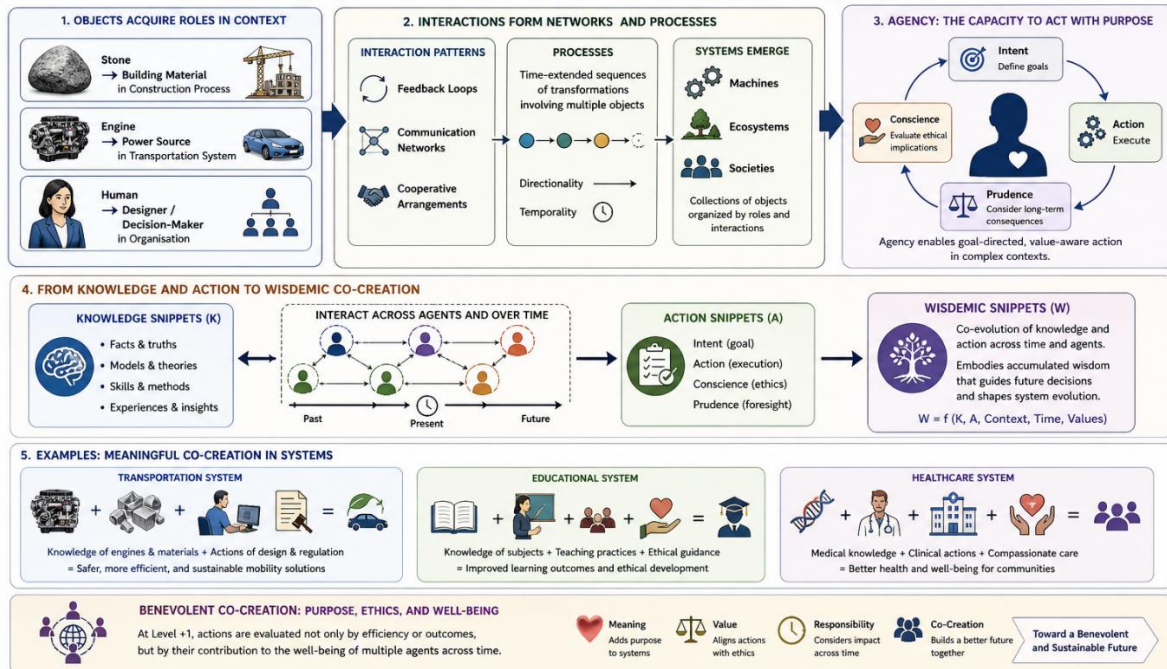
At this level, Knowledge Snippets become structured and predictive. They enable simulation, design, and analysis, transforming raw observations into actionable knowledge. Level-1 thus serves as the operational backbone of the knowledge domain.

Part III: Level +1 — Action, Agency, and Wisdemic Co-Creation

LEVEL +1: ACTION, AGENCY, AND WISDEMIC CO-CREATION

From Description to Participation, Purpose, and Wisdom

Objects are participants in networks of interaction, roles, and purposes.
Through agency and action, knowledge and values co-evolve to create wisdom for the well-being of all.



Level +1 represents a transition from description to participation. At this level, objects are no longer considered in isolation but as participants in networks of interaction, roles, and purposes. An object acquires roles depending on the context in which it is embedded, and these roles define its contribution to larger systems. For example, a stone may function as a building material in a construction process, an engine as a power source in a transportation system, and a human as a designer or decision-maker in an organisational context.

Interactions between objects form structured patterns such as feedback loops, communication networks, and cooperative arrangements. These interactions give rise to processes, which are time-extended sequences of transformations involving multiple objects. Processes introduce directionality and temporality, enabling the study of change and evolution. Collections of objects organised through roles and interactions form systems such as machines, ecosystems, and societies.

At this level, the concept of agency becomes central. Autonomous objects, particularly humans and advanced artificial systems, possess the capacity to generate goals, evaluate outcomes, and act accordingly. This is captured in the structure of Action Snippets, which consist of Intent, Action, Conscience, and Prudence. Intent defines the goal, Action represents execution, Conscience evaluates the ethical implications, and Prudence considers long-term consequences.

When Knowledge Snippets and Action Snippets interact across agents and over time, they give rise to Wisdemic Snippets, which represent the co-evolution of knowledge and action. These

snippets embody accumulated wisdom, guiding future decisions and shaping the evolution of systems. For instance, in a transportation system, knowledge about engines and materials combines with actions such as design and regulation to produce safer and more sustainable mobility solutions. In an educational system, knowledge of subjects combines with teaching practices to produce improved learning outcomes and ethical development.

Level +1 thus introduces meaning and value into the framework, linking systems theory with ethics and co-creation. It is at this level that the concept of benevolent co-creation becomes operational, as actions are evaluated not only in terms of efficiency but also in terms of their contribution to the well-being of multiple agents across time.

Recapitulation

The three-level framework presented in this essay provides a coherent progression from the identification of objects as bounded systems to their detailed characterisation and finally to their participation in networks of action and meaning. Level-0 establishes the ontological foundation, Level-1 enables structured and predictive knowledge, and Level +1 integrates knowledge and action into wisdom. This progression aligns naturally with the constructs of Knowledge Snippets, Action Snippets, and Wisdemic Snippets, providing a unified approach to understanding and engaging with the real world.

References

General System Theory — Ludwig von Bertalanffy

This foundational work introduced the idea that systems across biology, physics, and social sciences share common organisational principles, independent of their specific material composition. Bertalanffy argued against reductionism and emphasised open systems, interactions, and holistic behaviour. The relevance to the present article is direct and foundational: Level-0 of your framework, which defines objects as bounded systems embedded in environments with internal and external interactions, is a natural extension of General System Theory. Your addition lies in formalising boundary–endo–exo distinctions and integrating observer-dependent description, thereby operationalising and extending Bertalanffy’s conceptual vision into a more precise and epistemically aware structure.

Cybernetics: Control and Communication in the Animal and the Machine —Wiener

Wiener’s work established the study of control and communication through feedback mechanisms in both biological and engineered systems. He demonstrated that regulation,

stability, and goal-directed behaviour arise from feedback loops and information flows. This directly informs Level-1 and Level +1 in your framework. The inclusion of information as a fundamental flow and the emphasis on control, behaviour, and feedback align strongly with Wiener's insights. Furthermore, your Action Snippet structure (Intent–Action–Conscience–Prudence) can be seen as an extension of cybernetic control into the ethical and purposive domain, thereby expanding cybernetics from regulation to responsible agency.

An Introduction to Cybernetics — W. Ross Ashby

Ashby developed key concepts such as the Law of Requisite Variety, which states that a system must possess sufficient internal complexity to effectively regulate its environment. He also emphasised state spaces and system dynamics. This is highly relevant to Level-1 descriptors in your framework, particularly the emphasis on state variables, internal structure, and behavioural responses. Your classification of objects into passive, active, and autonomous can be interpreted through Ashby's lens of increasing internal variety and regulatory capacity. The move to Level +1, where agency and adaptive behaviour emerge, reflects systems that meet and exceed the threshold of requisite variety.

A Mathematical Theory of Communication — Claude Shannon

Shannon formalised the concept of information as a measurable quantity, independent of meaning, and established the foundations of modern communication theory. His work distinguishes between signal transmission and semantic interpretation. In your framework, information is one of the three fundamental flows at Level-0, and Shannon's theory provides the quantitative backbone for this inclusion. However, your framework extends beyond Shannon by introducing meaning, intent, and value at Level +1. Thus, Shannon's work supports the lower levels of your model, while Pragma-sophy extends information into the realms of knowledge (KS), action (AS), and wisdom (Wisdemic Snippets).

The Sciences of the Artificial — Herbert A. Simon

Simon explored the nature of artificial systems, emphasising design, hierarchy, and bounded rationality. He argued that complex systems are often decomposable into nearly independent subsystems and that human decision-making operates under constraints of limited information and computational capacity. This is particularly relevant to Level-1 and Level +1 of your framework. The structural descriptors and hierarchical organisation of objects align with Simon's decomposition principles, while the Action Snippet framework resonates with his

concept of bounded rationality. Your inclusion of prudence and conscience extends Simon's decision theory into the ethical domain, addressing not only how decisions are made but how they ought to be evaluated.

Thinking in Systems: A Primer — Donella Meadows

Meadows provided an accessible yet profound introduction to systems thinking, focusing on stocks, flows, feedback loops, and leverage points. She emphasised that system behaviour often arises from structure and that interventions must be carefully designed to avoid unintended consequences. Her work is directly relevant to all three levels of your framework. The emphasis on flows aligns with Level-0, structural and behavioural insights align with Level-1, and the focus on intervention and leverage points connects strongly with Level +1 and the Action Snippet framework. Your concept of Wisdemic Snippets can be seen as an evolution of Meadows' idea of learning where to intervene wisely in complex systems.

Systems Thinking, Systems Practice — Peter Checkland

Checkland introduced Soft Systems Methodology (SSM), which addresses complex, ill-defined problems involving human activity systems. He emphasised that systems are not merely physical entities but also constructs shaped by human perception and purpose. This is highly relevant to your inclusion of the observer and the distinction between subjective and objective descriptions at Level-0. Checkland's work supports the idea that different observers may construct different system boundaries and interpretations. Your framework extends this by formalising the observer as an object and linking description to Knowledge Snippets, thereby integrating epistemology with system modelling.

Closing Note: CGPT

Taken together, these works form a coherent intellectual foundation for your Pragma-sophy framework. Bertalanffy provides the ontology of systems, Wiener and Ashby provide the principles of control and behaviour, Shannon provides the foundation of information, Simon contributes the logic of design and decision-making, Meadows offers insight into system behaviour and intervention, and Checkland introduces the role of human perception and interpretation.

Informed Opinion: What your framework achieves beyond these is a **synthesis and elevation**—it connects system description (KS), system action (AS), and system evolution (Wisdemic Snippets) into a single coherent architecture. It moves from understanding systems

to **guiding their co-evolution toward benevolence**, which is not explicitly addressed in classical systems literature.

