

ORGANIC

Authored by
mohammad looti

October 17, 2025

RECOMMENDED CITATION

mohammad looti (2025). *ORGANIC*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=47232>

ORGANIC

Primary Disciplinary Field(s): Biology, Chemistry, Philosophy, Psychology, Agriculture

1. Core Definition

The term **organic** is a central concept spanning multiple academic disciplines, including chemistry, biology, psychology, and philosophy, generally denoting a fundamental relationship to living matter, integrated systems, or the basic, interconnected composition of a whole. Fundamentally, the concept describes phenomena or substances that are either derived from living organisms or possess the characteristics of complex, integrated systems exhibiting self-maintenance and growth.

In its most scientifically rigorous and modern sense, particularly within the domain of **organic chemistry**, the term refers specifically to chemical compounds that contain carbon, particularly those featuring carbon-hydrogen bonds. This definition forms the molecular basis of life, as carbon's unique bonding capabilities allow for the formation of the vast, intricate macromolecules (proteins, nucleic acids, lipids) required by all known biological processes. This chemical classification distinguishes organic substances from inorganic compounds, which generally lack carbon or are structurally simple compounds of carbon (like carbonates).

Beyond the chemical definition, **organic** signifies a structural or etiological characteristic. When describing complex entities--whether a biological organism, a social structure, or a psychological state--it implies adherence to the basic, fundamental composition of a system and the critical interaction of its parts. An organic entity is characterized by **holism** and interconnectedness, meaning the functional totality is dependent upon and greater than the simple aggregation of its components, often displaying spontaneous growth or development rather than being mechanically assembled, aligning with the idea of a natural, unfolding process.

2. Etymology and Historical Development

The etymological roots of **organic** trace back to the Greek word *organon*, which means "instrument, tool, or sensory organ." This original meaning immediately situated the term within the context of function and specialized parts working together towards a common purpose, primarily relating to the structure and operations of a living body. For centuries, the term was used primarily in anatomy and physiology to describe functional units--the organs--essential for life.

A profound historical shift occurred in the early 19th century concerning chemical understanding. Before 1828, scientific thought was dominated by **vitalism**, the philosophical belief that organic substances could only be created by living systems possessing a unique "vital force" unavailable to non-living matter. Consequently, substances derived from plants and animals were termed organic,

while those derived from minerals were inorganic. This strict demarcation was famously challenged and ultimately broken by Friedrich Wöhler's seminal synthesis of urea (a known organic compound) from the inorganic salt ammonium cyanate in 1828. The Wöhler synthesis dismantled vitalism in chemistry and redefined the discipline, allowing organic chemistry to focus on the structure and properties of carbon compounds, regardless of their origin.

Simultaneously, the concept evolved philosophically, informing systems thinking across the social sciences. Thinkers like Herbert Spencer utilized the **organic metaphor** to analyze societies, viewing them as complex organisms that grow, differentiate, and maintain homeostasis through the interdependent functioning of various social institutions. This historical development cemented **organic** as a term that simultaneously addresses chemical composition, structural complexity, and systemic integration, highlighting natural, spontaneous organization over artificial or mechanical design.

3. Organic in Chemistry: The Carbon Foundation

The contemporary scientific definition of organic chemistry centers on the element carbon, which is unparalleled in its ability to form stable, complex molecular structures. Carbon's valency of four permits it to bond with up to four other atoms, including other carbon atoms, leading to extensive chains, rings, and branched structures. This structural versatility is the physical prerequisite for the enormous variety and complexity of organic molecules, which far exceed the number of known inorganic compounds.

Central to organic chemistry is the concept of the **hydrocarbon skeleton**, which forms the core structural framework. Attached to this framework are various **functional groups** (e.g., hydroxyl, carbonyl, carboxyl), which dictate the molecule's chemical reactivity and physical properties. The study of organic compounds is fundamental not only to biochemistry--understanding the building blocks of life such as nucleic acids and proteins--but also to materials science, pharmacology, and industrial manufacturing, where synthetic organic molecules are used to create plastics, fuels, and pharmaceuticals.

It is important to note the nuances in classification; while the vast majority of carbon compounds are organic, certain simple carbon-containing compounds are typically classified as inorganic for historical and practical reasons, including carbon oxides (CO, CO₂), carbides, and metallic carbonates. Despite these minor exceptions, the defining characteristic remains the complexity enabled by carbon-carbon bonding, particularly the vast chains and intricate architectures that characterize the chemistry of life.

4. Organic Systems in Biology and Philosophy

In biology, the term **organic** describes the intrinsic nature of living systems--organisms--

characterized by complexity, regulation, and **autopoiesis** (self-making). An organism functions as a highly integrated whole where physiological processes, regulatory mechanisms, and structural components are deeply interconnected, ensuring the maintenance of internal equilibrium (homeostasis) necessary for survival.

The philosophical extension of this biological model is **organicism**, which posits that reality, or specific systems (like the universe or a society), should be understood as an integrated whole rather than as an aggregate of disconnected parts. This holistic worldview emphasizes that the properties of the system as a whole are **emergent**--they cannot be predicted or explained by merely analyzing the components in isolation. For instance, the spontaneous development of a mature ecosystem or the natural evolution of market structures are often described as organic processes, highlighting their non-linear, self-directed patterns of growth.

This perspective carries profound implications for ecology and environmental science, where the concept of the **organic ecosystem** underscores the intricate interdependence between biotic components (living organisms) and abiotic components (soil, water, atmosphere). Any intervention or change within an organic system is likely to produce complex feedback loops, demonstrating the principle that viability depends on the harmonization of diverse, functional parts.

5. Organic in Medicine and Psychology: Etiological Distinction

In clinical medicine and psychology, **organic** serves as a critical etiological descriptor, used to designate a state or illness that is essentially somatic or physical, contrasting it sharply with conditions that are psychogenic, functional, or operational. This distinction is vital for determining the appropriate course of diagnosis and treatment.

An **organic disorder** implies that the observed symptoms--whether cognitive, behavioral, or physical--can be attributed to a demonstrable physical or physiological pathology. Examples include neurological diseases (e.g., Alzheimer's, Parkinson's), infectious processes, endocrine imbalances, or structural damage to the brain. For decades, terms like **organic brain syndrome** were used broadly to categorize mental disorders resulting directly from physical disease affecting cerebral function, setting them apart from purely functional mental illnesses like certain depressive or anxiety disorders.

Although contemporary clinical practice uses the **biopsychosocial model**, acknowledging the complex interaction between biological, psychological, and social factors in nearly all health conditions, the initial assessment requires clinicians to rule out a primary organic cause. If a symptom is determined to be organic, medical intervention targeting the underlying physical pathology is required. This diagnostic pathway ensures that treatable physical causes are not overlooked in the presence of psychological symptoms, reinforcing the fundamental importance of discerning somatic etiology.

6. Organic Agriculture and Lifestyle

In common usage, particularly concerning food and environmental practices, **organic** refers to methods of production that prioritize natural systems and reject synthetic inputs. **Organic agriculture** is defined by farming practices that maintain soil fertility through natural means (e.g., composting, crop rotation), rely on biological methods for pest and weed control, and strictly prohibit the use of synthetic fertilizers, pesticides, sewage sludge, irradiation, and genetic engineering.

The philosophical foundation of the organic movement is rooted in ecological principles, aiming for sustainable systems that work in harmony with the environment, promoting biodiversity and long-term ecosystem health. When an individual states a preference to adhere to an "organic diet," as referenced in the source content, they are employing the term not in its strict chemical sense (as all food is chemically organic), but in its process sense. This signifies a consumer choice based on perceived health benefits, ethical treatment of animals, and environmental sustainability, ensuring the product has been produced without artificial inputs throughout its growth and processing stages.

Regulatory bodies, such as the [USDA National Organic Program](#), establish stringent standards defining what can be labeled **organic**, providing consumers with verifiable guarantees of production methods that reflect this holistic approach to food systems.

7. Key Characteristics of Organic Systems

Interconnectedness and Functional Integration: The parts of an organic entity are mutually dependent, forming a unified whole. The function of any one element is intrinsically linked to the health and operation of the entire system, preventing the system from being reduced to a simple collection of independent components.

Self-Regulation and Homeostasis: Organic systems possess intrinsic mechanisms to monitor, regulate, and restore internal equilibrium (homeostasis) in response to both internal and external stressors, ensuring stability and survival without constant external direction.

Complexity and Emergence: Organic structures exhibit high levels of structural and functional complexity, typically organized hierarchically. Crucially, they display emergent properties--novel qualities that arise from the interaction of components and are absent when those components are isolated.

Growth and Development: Organic entities follow internal patterns for growth, maturation, and differentiation over time. This dynamic, self-directed development is a defining feature that distinguishes living systems from static or mechanical constructions.

8. Debates and Criticisms

The concept of **organic** is a primary focal point in the debate between reductionist and holistic approaches to science and philosophy. Reductionists argue that complex organic functions, including life itself, can ultimately be explained by the physical and chemical interactions of their constituent atoms and molecules. Conversely, proponents of the organic view argue that while physical laws underpin organic systems, the emergent properties--such as consciousness or systemic functionality--are lost through reduction, requiring a holistic approach for full comprehension.

In social and political theory, the organic metaphor has faced criticism for potentially justifying static, hierarchical power structures. Critics argue that equating society with a single, harmonious organism can suppress individual rights, conflict, and necessary revolution in favor of maintaining the status quo or the "health" of the institutional whole, potentially leading to conservative rigidity or authoritarianism.

Furthermore, the strict scientific boundaries defining **organic** have become increasingly fluid. Advances in fields like synthetic biology and materials science routinely blur the line between artificially created and naturally occurring organic matter. While the term remains indispensable, the understanding of organic processes has evolved from vitalistic mystery to highly complex, yet fundamentally physical and chemical, organization.

Further Reading

[Organic Chemistry - Wikipedia](#)

[Holism in Science - Stanford Encyclopedia of Philosophy](#)

[Organic Brain Syndrome - ScienceDirect Topics](#)

[USDA National Organic Program](#)