

CHAPTER V: GENERAL CONCEPT OF HOLISM

Detailed Chapter Analysis

SECTION 1: CHAPTER POSITION IN THE OVERALL ARGUMENT

Chapter's Role in the Book's Overall Argument

Chapter V stands as the conceptual heart of Holism and Evolution—the pivotal chapter in which Smuts formally introduces and defines the principle of Holism that gives the book its title. Having established the preparatory groundwork in Chapters I–IV (examining the reformed concepts of space, time, matter, and life), Smuts now synthesises these threads into a unified theoretical framework. This chapter marks the transition from critique and preparation to positive construction.

The chapter serves multiple strategic functions: it coins and defines the neologism 'Holism'; establishes the whole as a *vera causa* (true cause) rather than mere philosophical abstraction; distinguishes Smuts's position from both mechanism and vitalism; and lays the groundwork for all subsequent applications of holistic principles to evolution, mind, and personality.

High-Level Summary of the Chapter's Central Claim

The chapter advances a singular, momentous proposition: there exists a fundamental, universal tendency in nature toward the production of wholes—organised, unified structures that are more than the sum of their parts. This tendency, which Smuts names 'Holism' (from the Greek ὅλος, meaning 'whole'), is not merely a useful explanatory concept but a *vera causa* operating throughout the universe. Holism is the motive force behind Evolution, explaining how matter, life, and mind form a continuous progressive series rather than discontinuous, irreconcilable categories.

Relationship to Preceding and Subsequent Chapters

Preceding Chapters: Chapters I–IV have prepared for this moment by demonstrating the breakdown of traditional rigid concepts. Chapter I introduced the problem of matter, life, and mind as seemingly discontinuous domains. Chapter II examined Einstein's reformed concepts of Space-Time, revealing structure as fundamental to the physical universe. Chapters III and IV examined matter and life respectively, showing how the concepts 'overflow' into each other's domains. Chapter IV ended by suggesting that 'permanent structures in Nature' point to 'a universal pervading feature' requiring 'isolation, identification and exact formulation.'

Subsequent Chapters: Chapter V provides the conceptual foundation for all that follows. Chapter VI ('Some Holistic Functions and Categories') will elaborate the technical characteristics of wholes—their regulation, coordination, and the transformation of causality. Chapter VII will address the relationship between Mechanism and Holism. Chapter VIII will apply holistic principles to Darwinism and evolutionary theory. Chapters IX–XII will extend the analysis to mind, personality, and the holistic universe. Every subsequent chapter presupposes the conceptual apparatus introduced here.

SECTION 2: KEY CONCEPTS INTRODUCED OR DEVELOPED

Holism (ὅλος = whole)

Definition: 'Holism is the term here coined (from ὅλος = whole) to designate this wholeward tendency in Nature, this fundamental feature of "wholes" in the universe' (p. 96). Holism refers both to the universal tendency producing wholes and to the character of wholeness that distinguishes the results of this tendency.

Key Characteristics: (1) It is not a vague creative impulse but has 'specific characters, the most fundamental of which is whole-making' (p. 97). (2) It is a vera causa—a real operative feature of the universe, not merely a methodological concept. (3) It is both 'general and specific or concrete,' satisfying 'our double requirement for a natural evolutionary starting-point' (p. 85). (4) It operates throughout all levels of existence, from inorganic matter to spiritual personality.

Terminological Note: Smuts explicitly coins this term, acknowledging its novelty: 'Holism is the term here coined.' The word had not previously appeared in philosophical or scientific literature in this technical sense. Smuts later notes (p. 120) that while the term may seem 'uncouth,' it 'has no confusing associations, and is wide and significant enough to cover all the groups of emergent synthetic entities and values in the universe.'

Whole (Natural Whole)

Definition: A whole is 'a unity of parts which is so close and intense as to be more than the sum of its parts; which not only gives a particular conformation or structure to the parts, but so relates and determines them in their synthesis that their functions are altered; the synthesis affects and determines the parts, so that they function towards the "whole"; and the whole and the parts therefore reciprocally influence and determine each other' (pp. 85–86).

Key Characteristics: (1) Self-acting and self-moving—'Its principle of movement or action is not external to itself but internal' (p. 99). (2) Composite, not simple—'Natural wholes such as organisms are not simple but complex or composite, consisting of many parts in active relation' (p. 100). (3) More than the sum of parts—'if these parts are taken to pieces the organism is destroyed and cannot be reconstituted by again putting together the severed parts' (p. 100). (4) Creative—'the organism is creative in that it is capable, under certain conditions, of renewing itself and of reproducing itself' (pp. 99–100).

Terminological Note: Smuts distinguishes his use of 'whole' from the Absolutist philosophical tradition, which applies the term to 'the cosmic whole, to the tout ensemble of the universe, considered as a unity or a being' (p. 98). His concern is with 'the small natural centres of wholeness in Nature' (p. 99)—concrete, empirically observable structures.

Creative Evolution

Definition: Evolution conceived as genuinely creative rather than merely explicative—producing 'not only of new forms or groupings, but even of new entities in the process of Evolution' (p. 84). This view 'posits a minimum of the given at the beginning, and makes the process of Evolution creative of reality' (p. 84).

Contrasted With: The older conception that 'regards all reality as given in form and substance at the beginning, either actually or implicitly, and the subsequent history as merely the unfolding, explication, evolution, of this implicit content' (p. 84). Against preformationism and predeterminism: 'This view puts creation in the past and makes it predetermine the whole future; all fresh initiative, novelty or creativeness is consequently banned from a universe so created or evolved' (p. 84).

Field

Definition: The extended, non-sensible structural domain surrounding and constituting part of any natural whole. 'According to this view the sensible structure is a narrow concentrated sensible focus beyond which is indefinitely extended an insensible structural field as the carrier of organic properties' (p. 113).

Purpose of Concept: The field concept addresses the problem that 'the sensible structure is not the whole structure, and is too narrow a base for the superstructure of organic activities' (p. 112). It explains how an organism can carry its entire evolutionary history and express indefinite variations without requiring impossible mechanisms within the visible structure alone.

Vera Causa (True Cause)

Definition: A term from natural philosophy denoting a real operative cause rather than a mere explanatory fiction or methodological convenience. Smuts insists that 'wholes are not mere artificial constructions of thought; they actually exist; they point to something real in the universe, and Holism is a real operative feature, a vera causa' (p. 85).

Significance: By claiming vera causa status for Holism, Smuts positions his theory as empirically grounded rather than speculatively metaphysical. He states: 'The whole as causal, as a vera causa, requires careful exploration. That there are wholes in Nature seems to me incontestable' (p. 98).

Progressive Grading of Wholes

Smuts identifies a progressive series from lower to higher wholes: (a) physical mixtures; (b) chemical compounds; (c) organisms; (d) minds/psychical organs; (e) personality. At each stage, 'the character of wholeness deepens; Holism as a process is not only creative but self-creative, and its final structures are far more holistic than its initial structures' (p. 86).

SECTION 3: DIALECTICAL CONTEXT

Views Being Critiqued or Rejected

1. *Preformationism/Predeterminism*

The view that 'all reality as given in form and substance at the beginning, either actually or implicitly' (p. 84). This includes Leibniz's theological standpoint and those who 'look upon reality as completed in the past, and to leave to the future the merely subordinate role of unfolding, evolving, explicating what was virtually contained in that past' (p. 88).

2. *Mechanism*

The dominant scientific worldview that Smuts aims to supersede. The mechanistic view treats causation as operating through external forces and denies genuine creativity: 'If the concept of creativeness, of the emergent new in the Evolution of the universe, really wins through, Mechanism as a scientific and philosophical category will be reduced to very modest proportions' (p. 136). Science 'has steadily neglected or ignored' the whole 'under the iron rule of the mechanistic regime' (p. 99).

3. *Bergson's Pure Duration*

Smuts devotes substantial attention to critiquing Bergson, whom he acknowledges as 'the most influential and brilliant exponent of the philosophy of Evolution in our time' (pp. 91–92). His critique: 'From bare, undifferentiated, homogeneous unity you cannot reach out to multiplicity. You may call pure Duration creative, but it will create nothing until it is mixed with something very different from itself' (p. 92). Bergson's error was 'his impoverishment of the creative principle by reducing it to the bare empty form of Duration' (p. 94).

4. *Absolutism*

The philosophical tradition applying 'the whole' to 'the cosmic whole, to the tout ensemble of the universe, considered as a unity or a being' (p. 98). Smuts distances himself: 'This particular use of the idea does not interest us at this stage of our inquiry. The great whole may be the ultimate terminus, but it is not the line which we are following' (pp. 98–99).

Thinkers Engaged

Henri Bergson: Primary philosophical interlocutor, extensively critiqued for the inadequacy of Duration as a creative principle. **A.N. Whitehead:** Appended note (pp. 114–120) acknowledges close convergence with Whitehead's 'Organic Mechanism' from *Science and the Modern World* (1925). **Herbert Spencer:** Referenced through Bergson's critique. **Leibniz:** Mentioned regarding preformationism and monadology. **Spinoza:** Referenced in connection with Whitehead's 'ultimate Substance.' **Kant:** Mentioned regarding Space and Time as forms imposed by mind.

The Problem the Chapter Addresses

The fundamental problem is how to conceive the unity underlying the apparent diversity of matter, life, and mind—and how to explain evolutionary progress—without falling into either mechanism (which denies genuine creativity) or vitalism (which posits mysterious non-material forces). Smuts seeks 'a concept of Nature and her progress which will not be imposed on her from without, but which will keep as close as possible to her own natural

evolving units, structures or standards' (p. 95). The chapter asks: What is the vera causa behind evolutionary progress, and how can we formulate it in a way that is both scientifically grounded and philosophically adequate?

SECTION 4: MAIN ARGUMENTS AND THEIR STRUCTURE

Argument 1: Evolution is Creative, Not Merely Explicative

Premises:

P1: Two conceptions of evolution have prevailed: (a) preformationist/explicative (all given at beginning); (b) creative (minimum given, reality produced through the process).

P2: Organic descent produces genuinely new qualities and characters, not mere rearrangements of pre-existing elements.

P3 (implied): The evidence of evolutionary history shows progressive emergence of novelty at every stage.

Reasoning: 'Compare a protozoon with a vertebrate animal, or one of the higher animals with man, and it surely becomes foolish to say that the elementary units are the same in both cases, and only their arrangement or synthesis into structures is different. Mere rearrangement of supposed unalterable pre-existing elements, mere reshufflings of the old cards, will give us a sort of chemistry of Evolution, but not the vast range of real effective advance which we know' (p. 133).

Conclusion: 'The emergence of the really new, in other words, the creativeness of the evolutionary process, is the only view which is in harmony with our scientific knowledge' (p. 135). Creative evolution 'releases the present and the future from the bondage of the past, and makes freedom an inherent character of the universe' (p. 84).

Argument 2: Wholes Are Real, Not Mere Constructions of Thought

Premises:

P1: 'The whole as a real character is writ large on the face of Nature. It is dominant in biology' (p. 98).

P2: Natural biological wholes (organisms) exhibit empirically observable characteristics that cannot be explained by their parts alone.

P3: The whole operates as a *vera causa*—it has genuine causal efficacy in nature.

Reasoning: An organism 'consists of parts, but it is more than the sum of its parts, and if these parts are taken to pieces the organism is destroyed and cannot be reconstituted by again putting together the severed parts' (p. 100). The whole is 'self-acting and self-moving. Its principle of movement or action is not external to itself but internal... It is in a very real sense *causa sui*' (pp. 99–100).

Conclusion: 'Wholes are not mere artificial constructions of thought; they actually exist; they point to something real in the universe, and Holism is a real operative feature, a *vera causa*' (p. 85).

Argument 3: Bergson's Duration is Inadequate as a Creative Principle

Premises:

P1: Bergson posits pure, undifferentiated Duration as the ultimate creative principle.

P2: To produce concrete multiplicity, Bergson must invoke the Intellect as a separate principle.

P3: This makes structure dependent on intellect rather than inherent in nature.

Reasoning: 'From bare, undifferentiated, homogeneous unity you cannot reach out to multiplicity' (p. 92). Bergson's error was 'his impoverishment of the creative principle by reducing it to the bare empty form of Duration. In order after that false step to set his Creation going it was inevitable that another mistake should be made, and that a relatively subordinate factor like the Intellect, should be overloaded with importance' (p. 94).

Conclusion: We need a starting-point that includes 'both the element of activity or principle and the element of structure or concreteness' (pp. 94–95)—which the concept of the whole provides.

Argument 4: The Whole Provides the Proper Starting-Point for Understanding Nature

Premises:

P1: To understand Nature, 'we must take one of her own units, and not an abstract one of our own making' (p. 94).

P2: Reality is 'not diffuse, dispersive and continuous; on the contrary, it is individual, aggregative, ordered, structural' (p. 95).

P3: Both matter and life consist of 'unit structures whose ordered grouping produces the natural wholes which we call bodies or organisms' (p. 95).

Reasoning: 'This character or feature of "wholeness" which we found in the case of matter and life has a far more general application and points to something fundamental in the universe' (p. 96). The whole satisfies 'our double requirement for a natural evolutionary starting-point'—it is 'both general and specific or concrete' (p. 85).

Conclusion: The concept of the whole, properly understood, provides the key to understanding both the unity and the progressive diversity of nature.

SECTION 5: EVIDENCE AND EXAMPLES USED

Empirical Evidence Cited

Biological Organisms: Plants and animals as paradigmatic wholes—self-maintaining, self-reproducing, exhibiting internal regulation and coordination. The organism cannot be reconstituted from disassembled parts. **Chemical Compounds:** Distinguished from physical mixtures—compounds exhibit emergent properties not present in constituent elements. **Physical Structures:** Atoms, molecules, crystals as lower-level wholes showing incipient holistic character. **Evolutionary History:** The vast progression from protozoa to vertebrates to humans as evidence of genuine creativity, not mere rearrangement.

Illustrative Examples

Physical Mixture vs. Chemical Compound vs. Organism: A graded series illustrating increasing degrees of wholeness and synthesis. 'There is the physical description of the mixture; there is the chemical description of the compound; and there is what I call the holistic description of the organism' (p. 176). **Artistic Wholes:** 'A poem or a picture, for instance, is praised because it is a "whole," because it is not a mere artificial construction, but an organic whole, in which all the parts appear in a subtle indefinable way to subserve and contribute to and carry out the main purpose or idea' (p. 96). **The Fertilised Ovum:** 'A minute speck of protoplasm is supposed to carry in its structure, on a sort of point to point correspondence, the hereditary experience of ancestors for untold millions of years' (pp. 112–113)—demonstrating the need for the field concept.

Scientific Sources Invoked

Bergson: *Creative Evolution* (1907)—extensively engaged and critiqued. **Whitehead:** *Science and the Modern World* (1925)—the extended note (pp. 114–120) quotes extensively from Whitehead's doctrine of Organic Mechanism. **Einstein/Relativity Theory:** Referenced as establishing the structural character of the Space-Time universe, supporting the view that structure is fundamental to nature.

SECTION 6: KEY QUOTATIONS FOR REFERENCE

1. Definition of Holism

'Holism (from ὅλος = whole) is the term here coined for this fundamental feature of wholeness in the world. Its character is both general and specific or concrete, and it satisfies our double requirement for a natural evolutionary starting-point. Wholes are not mere artificial constructions of thought; they actually exist; they point to something real in the universe, and Holism is a real operative feature, a vera causa' (p. 85).

2. Holism as Vera Causa

'The whole as a real character is writ large on the face of Nature. It is dominant in biology; it is everywhere noticeable in the higher mental and spiritual developments; and science, if it had not been so largely analytical and mechanical, would long ago have seen and read it in inorganic nature also. The whole as causal, as a vera causa, requires careful exploration' (p. 98).

3. Creative Evolution vs. Preformationism

'The view-point of Evolution as creative, of a real progressive creation still going forward instead of having been completed in the past, of the sum of reality not as constant but as progressively increasing in the course of evolution, is a new departure of our own time, and it is perhaps one of the most significant departures in the whole range of human thought' (p. 88).

4. The Universe as Open System

'The universe ceases to be a hide-bound, cast-iron, completely closed system from which real progress and freedom are excluded. It is open in one direction, the direction in which time is moving; the future faces an open gateway, and the universe is the highway of the creative movement, of that great march in which all the unit wholes and formations of Reality take their part and advance towards a fuller measure of wholeness' (p. 136).

5. Definition of a Whole

'Taking a plant or an animal as a type of a whole, we notice the fundamental holistic characters as a unity of parts which is so close and intense as to be more than the sum of its parts; which not only gives a particular conformation or structure to the parts, but so relates and determines them in their synthesis that their functions are altered; the synthesis affects and determines the parts, so that they function towards the "whole"; and the whole and the parts therefore reciprocally influence and determine each other, and appear more or less to merge their individual characters' (pp. 85–86).

SECTION 7: TIER 1 CONCEPT DEVELOPMENT

Holism

Development: This is the chapter where the concept is formally introduced, defined, and defended as *vera causa*. Holism is established as both a universal tendency and a specific structural character. It is distinguished from vague creative impulses (Bergson's *élan vital*) by its definite, characterisable nature.

Contemporary Connection: Denis Noble's principle that 'there is no privileged level of causation' in biological systems reflects Smuts's insight that the whole operates as *vera causa* at every level. Michael Levin's work on bioelectric morphogenesis demonstrates empirically how organismal wholes exhibit precisely the self-organising, creative properties Smuts attributes to holistic structures.

The Whole

Development: The chapter provides the primary definition of natural wholes as composite structures exhibiting unity, self-action, creative capacity, and reciprocal determination of parts and whole. The progressive grading of wholes (mixtures → compounds → organisms → minds → personality) is introduced.

Contemporary Connection: Kurt Goldstein's organismic neurology and the contemporary Extended Evolutionary Synthesis both emphasise that organisms are wholes whose properties cannot be reduced to or predicted from component parts—precisely Smuts's central claim.

Fields

Development: The field concept is introduced as the extended, non-sensible structural domain surrounding natural wholes. It addresses the problem of how organisms can carry their evolutionary history and express indefinite variations. The organism is 'an historic event, a focus of happening, a gateway through which the infinite stream of change flows ceaselessly' (p. 113).

Contemporary Connection: Michael Levin's bioelectric fields demonstrate empirically what Smuts posited conceptually—that organisms possess extended, non-mechanical fields that carry morphogenetic information and coordinate development across spatial and temporal scales.

Creative Evolution/Synthesis

Development: The chapter establishes creative evolution as the only view 'in harmony with our scientific knowledge' (p. 135). Evolution produces genuinely new entities, not mere rearrangements. 'Creativeness is the key-word' (p. 136) in the battle between nineteenth-century mechanism and twentieth-century holism.

Contemporary Connection: The Extended Evolutionary Synthesis, with its emphasis on developmental plasticity, niche construction, and organisms as drivers rather than passengers of evolution, validates Smuts's insistence on genuine biological creativity against Neo-Darwinian gene-centrism.

Mind

Development: Mind is positioned within the progressive grading of wholes as the stage where 'the Central Control acquires consciousness and freedom and a creative power of the most far-reaching character' (p. 85). Thought is described as 'creative in all its activities from the simplest perception up to the most complex judgment' (p. 89).

Contemporary Connection: Integrated Information Theory and other contemporary theories of consciousness that emphasise the irreducibility of conscious wholes to neural components echo Smuts's placement of mind as a higher-order whole with genuine causal efficacy.

CONCLUSION: THE SIGNIFICANCE OF CHAPTER V

Chapter V represents the conceptual foundation of Smuts's entire philosophical system. By introducing Holism as a *vera causa* and the whole as the proper unit for understanding nature, Smuts provides the key that unlocks all subsequent chapters. The chapter's critique of both mechanism and Bergsonism, combined with its positive construction of a third way, establishes the parameters within which all his subsequent arguments operate.

The remarkable feature of this chapter, viewed from a contemporary perspective, is how thoroughly it anticipates developments in systems biology, complexity theory, and the Extended Evolutionary Synthesis. Smuts's insistence that wholes are *vera causa*, that evolution is genuinely creative, and that organisms possess extended fields carrying morphogenetic information—all dismissed or ignored by mainstream biology for decades—are now being independently rediscovered by researchers working at the cutting edge of biological science.

The chapter's comparison with Whitehead's 'Organic Mechanism' is particularly significant, as it demonstrates that holistic thinking was emerging simultaneously from multiple directions in the 1920s. The convergence of Smuts (from evolutionary biology and philosophy) with Whitehead (from mathematics and physics) suggests that holistic principles were being forced upon thinkers by the evidence itself—a pattern that continues to this day as contemporary scientists independently rediscover the necessity of organismal and systems-level thinking.