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HUMANOLOGY AND THE HUMANOLOGICAL SCIENCES

Abstract: *This paper examines the assumptions and reasons for formulating a distinct approach to the study of the human being, one that would constitute a body of knowledge grounded in the specificity of human cognition, valuation, and action. It explores the origins of interest in the formulation of sciences concerning the phenomena of human reality, focusing on the contributions of Dilthey and Weber, and their relevance to contemporary understandings of humanology. Through an analysis of the fundamental epistemological assumptions of the modern scientific paradigm, the paper arrives at conclusions regarding the potential role of the humanological approach in its transformation and the original significance of the human sciences.*

Keywords: *humanology, science, experience, rationalism, human being.*

1. The Concept and Meaning of Humanology

Similar to the term *sociology*, the word *humanology* is a neologism composed of one Latin root — *humanum* (human being) — and one Greek root — *logos* (science, word or knowledge). It denotes a human-centered science

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or body of knowledge directed toward the understanding of the human being. However, does this not raise the question: are not all sciences already human by virtue of being human creations, through which human influence today extends over the entirety of reality? This question invites a reflection on the relationship between the human being and knowledge.

Contemporary scholars define humanology as the scientific investigation of humanity (*Ken Windish*), or as a science that seeks to understand human nature (*Magyar*). In its simplest form, it can be understood as the *science of the human being*. Yet the notion of a "science of the human being" encompasses a wide range of disciplines, including both the social and natural sciences.

A more precise definition of humanology is closely tied to conceptions of the human being within the historical and cultural context of modern humanism, and thus to the idea of *humanitas* that arises from it. Humanism can be broadly understood as a worldview that rejects all forms of supernaturalism and relies instead on reason and science, democracy, human interdependence, and cooperation. Modern humanism, in this sense, forms the foundation of all modern sciences.

However, the objectification of human knowledge across various scientific fields, along with the increasing technologization of practical life, has distanced both theoretical and practical interests from their original humanistic foundations. This has made it ever more relevant to ask how *humanitas* can be understood — both as a concept of humanity and as an epistemological basis for human identity. This is no longer merely a question about human nature, but rather about the condition that connects the humanistic foundations of the modern world

with the present situation. How can we today explain the domain of human interest as an interest in the human being?

Thus, it can be said that the fundamental question for humanology is whether *humanitas* simply manifests itself, or whether it can also be *established* — as both the presupposition and the goal of human action. Therefore, we define humanology not only as a notion or content which deals with philosophy, rather as a concept that articulates a philosophical paradigm for reflecting on the human condition in the contemporary world. From this, a connection with science also emerges, insofar as this paradigm extends the very notion of a scientific paradigm, thus allowing us to speak of *humanological sciences*.

Interest in *humanitas*, from the standpoint of humanology, entails both the examination of its underlying assumptions and the investigation of the experiential interpretation of those assumptions. *Humanitas*, as both a construct and a conceptualized experience, shifts the question of human nature onto the plane of human reality. Human nature does not exist in the same way as an object or thing; however, it can become objectified and thus perceived as real. If human nature manifests itself within the objectified domains of human potential (such as science, technology, and production in general), it becomes the foundation of reality understood as a world shaped by human power. The world then becomes a system of things created by humans — a self-sufficient and closed loop of evidence reflecting an objectified human nature. In such a world, the question of the human being becomes redundant.

Humanology investigates the causes and implications of this state in which the question of the

human becomes irrelevant, as well as the means of restoring the significance of that question. In the broader sense, the humanities — as distinguished from other sciences — study content arising from the unique qualities of human nature and action, forming a distinct body of knowledge. This includes disciplines such as history, philology, and anthropology. These fields are commonly referred to as *the humanities*.

However, the concept of *humanology* draws its content more narrowly from an understanding of the human sciences — that is, from the study of human reality through the lenses of cognition, valuation, and action. The subject matter of these sciences is theoretically grounded in the study of the specificity of human experience, serving as a foundation for the formulation of both *human knowledge and knowledge about the human*. This reflection also contains a practical dimension: the study of human interests as interests in the so called *conditio humana*.

These sciences can also be seen as an interdisciplinary convergence of the "human" aspects of the social sciences, unified and recognized under the academic designation Human Sciences. This framework underpins the specific meaning of the sciences of the human being, and thus defines the term humanology.

A humanological approach to the problem of the human being may therefore be understood as an inherently interdisciplinary method of addressing questions such as the understanding of human reality in relation to the question of the *humanhood*[2]; the human-conditioned nature of cognition and the universal or

[2]This term designate at the same time the meaning as well as the goal of entire humanological approach and that is very essence of humans.

relative conception of reality; the dualism of the corporeal and the spiritual (epistemological and ontological dimensions); the social projection of the human being; the human as an entity of exchange (sociological dimension); the cognitive mapping of reality, emotions, and human attributions of meaning (psychological dimension); moral definitions of the human and value orientations (ethical dimension); and key characteristics of human life such as education, responsibility, and development (pedagogical dimension).

This fundamental characteristic is also reflected in the definition of human sciences given by *The George Washington University*:

> "The human sciences constitute an interdisciplinary intellectual framework for studying various meanings of humanitas within social and cultural activity, utilizing interpretive and critical research methodologies."

In this paper, however, we attempt to articulate the potential of *humanology* as a new and original philosophical (and scientific) paradigm, linking it to prior conceptual explanations and its historical foundations. This pertains both to its singular form — *humanology*, as an inquiry into the human being as an integral entity — and its plural form — *humanological sciences*, as a reflection of a broader interest in transforming the paradigm of science itself.

In what sense, then, can we speak of humanology as a new paradigm?

The objectification of human knowledge across numerous disciplines and the increasing technologization of practical life have distanced both theoretical and

practical pursuits from their humanistic foundations. How can we, based on human capacities, create a world that aligns with human measure?

This raises the increasingly pressing question: how can humans be understood — both as a concept of humanity and as an epistemological foundation of human identity? This is no longer a question about human nature per se, but rather about the condition that connects the humanistic foundations of modernity with today's reality. How can we now explain the domain of human interest as an *interest in the human being*?

Thus, it can be said that the central question of humanology is whether — and in what ways — understanding of humans is merely given, or whether it can be established as both the presupposition and the goal of human action.

Interest in humanhood, from the humanological perspective, therefore implies the critical examination of this presupposition and the investigation of the experiential interpretation of such a premise. As a presupposition and conceptualized experience, understanding of *human being* brings the question of human nature into the realm of human reality. Human nature does not exist in the same way as an object or a thing, but it can be objectified and thus made real. If human nature is verified within objectified domains of human potential (science, technology, and production more broadly), it becomes a precondition for reality conceived as a world of human power. That world becomes a system of things created by human beings — a self-contained and self-sustaining loop of evidence of objectified human nature. Within such a world, the question of the "human" becomes obsolete.

Humanology engages with the causes and consequences of this condition — one in which the

question of the human being has lost relevance — and explores pathways for renewing its significance.

2. Origins: The Science of the Human Being — The Spiritual or Cultural Sciences (Dilthey and Weber)

The currents of Western European thought, literature, philosophy, and science have long been marked by diverse articulations of the question of the human being. A century ago, at the turn of the 20th century, a group of scholars and philosophers — among them Wilhelm Dilthey and Max Weber — proposed the establishment of distinct sciences dedicated to exploring the uniquely human domains of experience, cognition, and the construction of meaning in the world of human affairs. In drawing a line of demarcation from the natural sciences and delineating a specific domain within the social sciences, this initiative was historically referred to — not coincidentally — as the "*struggle over method*" (*Methodenstreit*).

Within Dilthey's framework, what he calls *the spiritual*[3] *sciences* (*Geisteswissenschaften*) aim to investigate what he terms "*socio-historical reality*".[4] He emphasizes that every science consists of a combination of three components:

1. *Elementary concepts* that are clearly defined, stable, and universally valid within a comprehensive logical system;

2. *Well-grounded interrelations* among those concepts;

[3] "Spiritual" here means specific human experience of inner life as well as the world of human affairs.

[4] The reflection on Dilthey's views primarily refers to his text *Introduction to the Human Sciences* (2000).

3. *A unifying structure* in which those interrelated concepts form a coherent whole that is communicable and transmittable through language.

If the fundamental propositions concern knowledge based on various mental facts, then the facts satisfying these three propositional criteria may be considered *scientific facts*.

Dilthey maintained that all such facts — which belong to the domain of knowledge about the human being, history, and society — constitute the foundation of the human sciences. However, these facts cannot be treated in the same manner as material facts within the natural sciences. They are primarily oriented toward *understanding* (*Verstehen*), rather than toward explanatory control, which often relies on methods borrowed from disciplines to which these facts do not belong.

The empirical method, in this context, requires the development of procedures specifically tailored to the investigation of the subject matter of the human sciences — particularly in a historical-critical sense. According to Dilthey, the nature of knowledge within these sciences must be explained by taking into account the totality of human development. This approach fundamentally contrasts with the positivist view, which derives the meaning of science from definitions of knowledge rooted in the natural sciences. Based on this definition of science, positivists judge which intellectual contents may carry the name of "science" and claim the status of scientific knowledge.

In his efforts to delineate the domain of the human sciences, Dilthey emphasizes the *irreducibility* of human experience — it cannot be satisfactorily explained by reference to the external processes in which that

experience is embedded. These external processes primarily belong to the realm of nature. Structuring human experience according to the categories of the natural world, for Dilthey, merely reflects a need to safeguard the *autonomy* of an empirical science that would remain faithful to the specificity of its original material.

According to Wilhelm Dilthey, the general delineation of the domain of the human sciences can be approached through two methodological steps. The first relates to the boundary characteristics of experience itself — that is, the way experience is interpreted as knowledge. This is connected to the thesis of the *incommensurability* between inner experience and the external world, meaning that the qualities of experience cannot be derived from quantified explanations that rely on external categories. The second step concerns the limitations of knowledge about nature, or the external world, independent of human experience.

Regarding the first step, Dilthey begins with the question of the correlation between reality and experience. Reality is given to us through inner experience, which is infused with various sensory data, making the elements of scientific calculation incommensurable with the source of experience. This incommensurability implies that facts of one origin cannot be derived from facts of another origin. For example, we arrive at the concept of matter through the properties of space only by virtue of the factuality of tactile sensations — experiences in which we feel the resistance or texture of material objects. In general, we must pass through sensory awareness to perceive internal states if we wish to "grasp" a given state of consciousness at any moment.

Due to the incommensurability of experiential data, we must accept them as *given*. All our knowledge is limited by the establishment of uniformity in succession and simultaneity, based on how elements are related within our experience. These limits are inherent in the very conditions of experience and simultaneously constitute the limitations that persist at every level of natural science — not as external constraints imposed on our knowledge of nature, but as conditions immanent to experience itself. The existence of inner, cognitive limitations, however, does not pose an obstacle to the functioning of knowledge.

If there are qualitative properties of things or facts of consciousness that science subjects to processes of calculation — tracing changes in reality even to the level of atomic movement — the mere fact that such changes can be calculated demonstrates that the non-derivability of qualitative properties or facts of consciousness does not prevent science from operating effectively.

The assumption that qualitative properties emerge in the processes of sensory perception serves primarily the purpose of calculation — within which changes in reality, as given in experience, are reduced to a specific subclass of changes in the broader reality. This reduction corresponds only to one segment of our experience. It is necessary in order to bring those qualities to a unified cognitive level for processing and interpretation.

With respect to the second methodological step, Dilthey emphasizes that there is a fundamental dividing line between the world of the *human spirit* and the uniformity of natural processes. Thus, facts pertaining to the human world cannot be subordinated to those rooted

in a mechanistic conception of nature. This distinction is crucial: the point of divergence that marks the beginning of an independent science of the human being is not internal limitations of experience-based knowledge, but rather the point at which knowledge of nature reaches its limit.

In this way, the core problem is established: how to distinguish the relations between facts of the human world from the uniform relations governing physical facts and processes. This distinction eliminates the assumption that the classification of facts about the human world can be adequately interpreted as mere qualitative aspects of material facts in the physical world.

Regarding the elaboration of human qualities and values in a practical sense, Dilthey contended that their domain must be distinguished from that of the applied sciences. In the human sciences, human experience is incorporated into knowledge from the outset — as part of the experience itself — rather than retrofitted afterward. Practicality, in this sense, unites the lived vitality of knowledge acquired through experience, subject to empirical verification. It resembles what might be considered everyday or common-sense knowledge — or craftlike - yet it pertains to the essential character of human experience. The content of such experience is not concerned with representations of objects, but rather with one's own humanity and the innate qualities shared by all people. Thus, the testing of freedom provides a framework for contemplating human association, articulating knowledge of that freedom through practical or lived forms of action. According to Dilthey, this is why the human sciences cannot form a single logically consistent system analogous in structure to that of the natural sciences.

The term "*socio-historical reality*" strives to conceptually and categorically delineate a domain of inquiry that emerges from human experience and knowledge. Yet, since this framework is subject to constant categorical transformation, these disciplines remain oriented toward the sphere of human experience and knowledge, from which the distinct meaning of a separate science must still be constituted.

In other words, the categories of history and society are functionally significant in framing the human sciences. The formulation "*socio-historical reality*" enables us to understand that human reality is preserved in consciousness both as historical information (transferrable across time and space) and as information about society, extending beyond its present state. Past conditions of society and human existence in history are conveyed into the present. Human experience is thus continually reinterpreted within human knowledge, preserving shared elements of recognition.

The human sciences, as they emerge within the parameters of human experience and the development of knowledge and action, encompass three types of orientation:

1. A descriptive orientation that records reality as given in human experience — this provides the historical aspect of knowledge.

2. A theoretical orientation that explains uniform patterns in selected aspects of that reality, abstracted away from the whole — this forms the theoretical component of human sciences.

3. A normative orientation that expresses value judgments and prescribes norms — this constitutes the practical component of human science.

If knowledge about *what is* is linked with awareness of a system of value — through evaluations, ideals, and rules, projecting the shaping of human life's future — then, according to Dilthey, we can speak of discrete epistemological foundations within the human sciences.

Similar to Dilthey, Max Weber situates the need for a specific approach to human knowledge within the general framework of the social sciences. The concept of "*sociality*" broadly refers to human relationships and is too general to designate the study of phenomena that Weber most often calls "*cultural*". What Dilthey emphasizes as experiential and empirical in the human sciences, Weber terms "*reality*". He, too, opposes the projection of uniform, abstract theoretical explanations — formulas — into the human or historical-cultural domain, which forms the basis from which both experience and reality derive.

By emphasizing human experience and the reality of historical-cultural phenomena, Weber seeks to establish how one arrives at the reality of the human world. He also underscores a special domain of phenomena, distinct from those studied by the natural sciences. Using an example from astronomy, Weber observes:

> "While in astronomy celestial bodies are interesting only in their quantitatively precisely measurable relations, in the social sciences we are concerned with the qualitative coloration of processes."

Like Dilthey, Weber uses the category of the "*spiritual*" to highlight the specificity of human experience. He adds:

> "It should also be noted that in the social sciences we are dealing with the participation of spiritual processes whose renewed experiential understanding is, of course, a task distinct from those tasks that the formulas of exact natural-scientific cognition generally cannot or do not strive to solve" (Weber 1989: 45).

From the broadest distinction between sciences different from the natural sciences, both Dilthey and Weber attempt to extract a fundamental point of differentiation that would also secure narrower scientific fields as correlates and mediums for other disciplines within the socio-humanistic sciences.

In this regard, Weber further states:

> "As *cultural sciences*, we have designated those disciplines that aim to understand phenomena of life in terms of their cultural significance. The meaning of a cultural phenomenon and the basis of that meaning cannot be discerned, grounded, or made intelligible by any conceptual system of laws, no matter how perfect, because it presupposes a relation between those cultural phenomena and value-ideas. The concept of culture is a value-based concept" (Weber 1989: 47).

The study of a reality that presupposes the attribution of human meaning to its content does not imply that determining causality and regularity among phenomena is the goal — but rather a means of understanding.

In the works of Dilthey and Weber, the foundations were articulated not only for delimiting the sciences that

deal with "*human affairs*" but also for developing an alternative approach to the very paradigm of science.

Both aspects are encompassed in the contemporary meaning of the term "Human Sciences", as a formulation of ongoing research efforts aimed at grounding scientific knowledge in a humanological framework — continuing the legacy of these two great thinkers and scholars.

3. Humanology and the Experience of the Sciences

How might humanology as a philosophical paradigm relate to other disciplines? If we consider its relationship with sociology — that is, the science of society in general — we find that these fields are not only closely related but also complementary.

Since *society* does not exist as an object in the physical world, but is instead a diffuse and variable category, the subject matter of sociology is constituted (or constructed) through the theoretical approach itself. Consequently, the subject is articulated differently in theory, which influences both the methodological grounding of the discipline and the choice of research methods for social phenomena.

Although sociology appears quite distinct from physics, the two share a notable contemporary characteristic: both have developed myriad research methods whose results are significant within smaller segments of their respective fields (physical or social phenomena). However, the more refined these methods become, the less theoretical interest there is in answering foundational questions about the nature of matter or society as a whole. In sociology, this condition signals a fundamental methodological problem: the principled impossibility of objectively choosing an approach to the subject matter. This suggests a normative *a priori*,

making the question "*what is society*" fundamentally relative to "what society should be." This is not a matter of crude ideological bias, but rather an intrinsic feature of the discipline. An unreflected relation between *is* and *ought* can result in their entanglement at various levels of analysis.

On a methodological level, this means that unless the interpretation of *sociality* is incorporated into the study of social phenomena, research practices risk devolving into sociological technique — tools and results that may facilitate social engineering, estranged both from science and from the question of the human whose key characteristic is *sociality* itself. From these core, and related, problems in sociology, humanology derives its mission — offering both corrective and complementary methodological approaches. This entails formulating new methodological solutions and integrating them with established research methods.

On this theoretical-methodological level, the problem of knowledge is connected to the issue of *decentration*. Originally meant to avoid arbitrariness and unreliability tied to subjectivism or introspection, decentration invokes the principle of objectivity in knowledge. However, if this principle is treated as an *a priori* postulate — hypostatized — it can lead to the fragmentation of knowledge, abandoning the idea of the human as an integral being and instead producing a multi-centered (polycentric) system of disciplinary knowledge. This echoes the older epistemological problem of the subject–object relation. If a discipline claims to study the human being, it cannot treat the human as an "object" in the conventional sense, but rather as a *pragmatically posited object of study*, since the very act of interest presupposes the idea of the human.

Consequently, the question of the theoretical scope of the science of the human being — and potential restrictions on its programmatic framework — become evident.

Humanology thus inevitably impacts our understanding of the scientific paradigm, including the values and standards that make possible the idea of science itself as the dominant form of knowledge.

Summarizing the positions of science theorists regarding the nature of the scientific subject — specifically the assumption of an objective reality independent of human investigation — renowned Serbian methodologist Staniša Novaković concludes:

> "From all this, it clearly follows that the conception by which sciences derive their subject matter based on which part of reality they study is profoundly inadequate. Moreover, as we have seen, it is rooted in a passive and intellectualist understanding of science as merely a reflection of reality. Humanism, by contrast, views the human being as a practical and creative being, limited by prior knowledge and the concrete historical situation in which it exists, yet also by nature proactive — directed toward overcoming the reality in which it lives, both in cognitive terms and in striving to remove everything that hinders the realization of the values it has set for itself" (Novaković 1994: 62).

Humanology begins from the premise that there is a scientifically legitimate interest in the human being, and that the form of knowledge emerging from that interest must necessarily include reflection upon it.

Thus, humanology represents a contemporary effort to articulate and affirm the humanistic origin of both the

natural and social sciences. From this feature arises its specific relevance to interdisciplinarity.

This is not simply due to the complexity of the problem of humanity, which demands an interdisciplinary approach in research, but also due to the need for a science that plays a corrective role — addressing the limitations of existing sciences while drawing on both their positive contributions and their deficiencies.

In other words, it is not just the complexity of the phenomenon at stake, but the preservation of the totality of phenomena tied to the state of humanity, within which the condition of science itself is a part of the broader problem.

Therefore, humanology as a philosophy of science, namely as approach to broader paradigm of science itself, can also be understood in the plural — as the *sciences of (hu)man* — derived from its singular sense as a *foundational epistemological framework*. In this regard, humanology aligns with Jean Piaget's view of epistemology as a "*science of man*."

Piaget (1979: 88-90) writes:

> "Although the human sciences are the most complex and the most difficult, they nevertheless occupy a privileged position within the circle of sciences, as sciences of the subject who constructs the others. They cannot be separated from the others without resulting in a distorting and artificial simplification. But if we restore the human subject to its proper place—which, from the perspective of the physical and biological object, is the endpoint, and from the perspective of action and thought, the point of creative origin — then only the human sciences make comprehensible the closure, or more precisely, the internal coherence, of the scientific circle".

One of the key elements of any scientific paradigm is the assumption of knowledge as a system of explanation based on scientific laws. Such knowledge, by fulfilling the central epistemological criterion of objectivity, would correspond in character to the objective reality presumed by the scientific paradigm.

However, modern developments in theoretical physics have begun to question both the character of that basic assumption and the very epistemological principle of objectivity itself.

A physical theory that aspires to be *complete* implies that theories concerning parts of physical reality can be logically unified into a single physical theory of reality. From the moment of the emergence of the theory of relativity, the very concept of physical reality was extended beyond the realm of macrophysical phenomena to also include microphysical phenomena.

The physical laws of mechanics that apply to observable terrestrial phenomena have since been supplemented by laws that govern phenomena inaccessible to human senses, including those that occur beyond Earth's gravitational field. These inquiries expanded to include explanations of the universe and its origin. Within this broader context, physical reality under Earth's gravity appears as merely one aspect of the total physical reality.

Even at the level of dividing physical phenomena and their laws into macro- and microphysical, the issue of objective reality has become, at the very least, highly complex. Macrophysical laws may refer to a reality that is observable by human senses, and can thus be considered objectively real — both descriptively and in terms of laws explaining relations between those

phenomena. But at the microphysical level, phenomena must be explained by laws that are different from those of macrophysics. They cannot be identified by direct observation, but only through highly sophisticated experiments and mathematical calculations.

The issue of objectivity in physical reality now belongs to a context in which reality is split into what is accessible to perception, and what is not, but is derived from the knowability of an unobservable world. In this case, objectivity is no longer a criterion, but knowability becomes one — thus objectivity assumes the status of a derived assumption.

The problem of objectivity exists even within the observable world, because not all perceivable physical phenomena can be explained using physical laws based on mechanical motion of objects. There are well-documented phenomena such as telekinesis, levitation, and telepathic experiments that challenge the completeness of mechanical explanations.

The theory of relativity questioned not only the concept of objective physical reality, but also the fundamental physical assumptions of the scientific paradigm — particularly the elements of objectivity such as space and time. Not only was the exclusive validity of Euclidean geometry rejected, but scientific research led to revised understandings of the number and type of dimensions that constitute physical reality — within which not only celestial bodies, but also human beings, move and exist.

A complete physical theory had to incorporate these changes, especially in light of efforts to explain total physical reality, including cosmological questions concerning the origin of the universe.

Over the past century, in addition to the formulation of the theory of relativity, physicists have developed theories on the origin of the universe as an integrated physical reality. After the Big Bang theory, the string theory was proposed, which necessitated the inclusion of 10 or even 11 fundamental dimensions of physical reality.

This was only a prelude to the most recent research, which replaces the theory of the universe as a single physical reality with the multiverse theory — the concept of the simultaneous existence of multiple physical realities.

The notion of "parallel worlds" redirects the question of human knowledge toward the interaction of concepts that transcend the standards of objectivism — the foundational pillar of epistemology based on the assumptions and criteria of "objective knowledge about objective reality."

Drawing from the experiences of contemporary physics, humanology (as an philosophical and scientific approach) can gain impetus for further exploring the complexity of human cognition. On the theoretical-methodological level, knowledge cannot be treated merely as a subject-object relation, but rather as an interpretation of the relational structure of being and knowing.

Within the very concept of knowledge, its apodictic certainty is already denied by the prefix "con" (con-text which goes "with" knowledge)[5]. What accompanies knowledge not only suggests its conditionality, but also the presence of a correlational structure that fundamentally enables knowledge as a phenomenon of a

[5]In this processual meaning of context of knowledge one can describe it as "geting to know" phenomena.

distinct mode of being, thereby giving meaning to knowledge *in relation to the human being* — expressed as human knowledge.

These are but some signposts of change within the scientific paradigm, opening up new possibilities for scientific inquiry. The humanological approach thus provides foundations for new research methods, ranging from conceptual analysis to empirical procedures.

4. Humanological Reasons for Changes in the Modern Scientific Paradigm

Studies by historians and theorists of science from the second half of the twentieth century until today show that science is not a form of pure or certain knowledge devoid of human influence on the very nature of that knowledge. On the contrary, persistent "persuasive" components of scientific statements have been observed, as well as the variability of scientific opinion that affects the interpretation and direction of scientific research and results, alongside the susceptibility of science — understood as "objective knowledge" — to ideological functions.

These insights direct us toward the foundations of science as the dominant form of "rational power of knowledge." When we say "human reason," we may think of so-called "common-sense thinking" subject to uncertainty and change, or of rational thinking that strives for knowledge that is certain and independent of human opinion. The rational approach is based on eliminating the influence of opinion (subjective, in fact the human factor) on the process of cognition.

In the continuous pursuit of certainty and objectivity, rational knowledge remains in constant contact with subjective influences but overcomes them

by disciplining thought within the general forms of logic and the methodological procedures applied in investigating reality. Therefore, the rational standpoint fundamentally maintains a negative relationship to human reason in its integral sense, which results in postulating a normative ideal of knowledge or science extracted from the corresponding form of logic (logistics) and methodology (methodics). From this dehumanized reason, by hypostatizing its rational form, human reality and science as rational cognition are also dehumanized.

Thus, it becomes possible to establish the relation between "objective reality" and "objective knowledge." The unmasked aporias of the rationalization of scientific knowledge revolve around the foundation of the "longing" for objectivity based on the metaphysics of subjectivity in its origins, and the persuasive character of the belief that rationalized scientific knowledge "overlaps" with reality independently of humans.

Reason I – Return to Human Reason

Rationalization, as the generalized identification of the use of human reason, also relies on impartiality as an important epistemological norm.

Viewed in the broadest perspective, impartiality appears as a necessity for judgment in choosing among diverse human ideas that arise in various historical and cultural contexts. Ensuring an impartial standpoint would be a characteristic of rationally used reason.

Rationally ensuring an impartial standpoint turns into an epistemological norm when rationality is recognized in abstract logical terms that become a

universal authority over ideas and concepts in any context of their origin.

In Stephen Toulmin's analyses regarding the phenomenon of conceptual change, two fundamental arguments about the inadequacy of the rationalist standpoint are presented. First, the rationalist tradition (Descartes, Frege) discourages considering the process of conceptual change as well as the context of applicability of conceptual systems in practical use. The problem also arises when asking how ahistorical standards of formal relations between concepts apply to arguments in historical-cultural contexts.

Through the problem of historical relativity, the second argument — historical relevance — emerges. How can the universal validity of conceptual systems for diverse cultures and fields of inquiry be demonstrated, and especially, how can general and universal conceptual forms explain historical changes within science itself and the diversity of scientific theories?

Attempting to formulate a standpoint that avoids the problems of rationalist absolutism as well as historical relativism, Toulmin states:

> "*It turns out that both the absolutist and relativist positions rest on a common mistaken assumption, that 'rationality' must be a property of some particular logical or conceptual 'system'; they differ only in placing our rational standpoint, in one case, in an idealized, abstract system, and in the other case, in some actual but arbitrarily chosen system." Furthermore, "We must, therefore, begin by recognizing that rationality is a property not of logical or conceptual systems as such, but of human activities or undertakings whose particular*

sets of concepts are temporary cross-sections" (Toulmin 2002: 122-123).

Reason 2 – Deconstruction of the Modern Matrix (or Ensuring the Freedom of Knowledge)

The very "origin" of rationality as a specific way of using reason — that is, its hypostatized identification with reason in general — can be found in the historical-cultural context of Western Europe known as Modernity. This context, along with the rationalist-based rational knowledge, gives meaning to the modern understanding of science.

Until the second half of the twentieth century, the status of science under modern thought was not questioned. This unquestionable state was primarily ensured by the dominance of the rationalist-absolutist understanding of conceptual thinking. The relationship between logic and science led to the functionalization of logic, that is, its subordination to the investigative needs of knowledge in a rationalist key. Logic was purified of antinomic thinking, opinion-based thinking, persuasive elements, and the varying nature of opinions subject to human debate. Traditional areas of topics and rhetoric were eliminated.

However, contemporary research within the history of science has shown that science not only does not operate on the foundations of "purified" logic but cannot function without the influence of persuasive thinking. Supporting this, consider the words of Jovan Aranđelović:

> "*It should be emphasized that the most important achievement of the change in the modern idea of science can be considered not only the opening toward persuasive thinking, or the recognition of*

its inevitability, but above all the testimony that it is impossible to remain within the modern idea of investigative logic, that this form of logic of rational knowledge is insufficient, that it cannot satisfy all the essential needs of scientific knowledge. Another significant result of this development is the realization that the logic of rhetorical thinking is not something that contradicts the spirit of science, unless it is equated with the modern ideas about its image" (Aranđelović 1997: 298).

Instead of a conclusion

At the end of this text, I want to clearly point out firts that humanology is the basis of humanological sciences as deepened and broather approach to human phenomena as well as to already existing human sciences. But to show that significance we want to amphasize both the differences and the complementary relationship between the theoretical-methodological characteristics of human sciences and the "natural," or rather positivistic sciences. For this purpose, I will use the comparative table by John Davis, attached to this text.

Here, I will only say that these sciences are characterized by a holistic approach to study, and from a theoretical-methodological perspective, they rely on phenomenological, hermeneutic, or constructivist-deconstructivist methods. Regarding research procedures, qualitative approaches are more prevalent than quantitative ones.

From epistemological foundations also follows a methodological orientation toward identifying scientific disciplines that have a human-centered model, as segments of the overall humanological approach to

studying humans and the human condition (for example, Human Geography or Human Security).

Comparing Two Views of Research Methods[6]

	NATURAL SCIENCE	**HUMAN SCIENCE**
Purpouse of Research	Establishing facts … to find weather are true or not by eliminating alternative hypotheses	Understand the meaning of phenomena … to construct and vindicate descriptions of the world that are deeper, richer, and more useful
Philosophical Foundations	positivism empiricism operationism reductionism objectivism atomism mechanism	phenomenology holism hermeneutics constructionism

[6]Author of this table is John Davis, Ph.D. from Washington University.

Role of values and models	Science is value-free. Models come from synthesis of raw empirical data into theories. Adherence to the scientific method guarantees that results will be context-free and universally applicable.	Paradigms, values, and models quide: a) Questions asked b) methods used c) possible explanations d) dissemination of findings. Scientific research is always influenced by its context. There are no purely "raw" data.

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