The Academic Synopticon

Part Four.
The Academic Disciplines

In modern times, disciplinary areas have multiplied almost beyond measure, assisted by academic specializations fostered in the modern university. However, there are a limited number of basic disciplinary areas, each one focused on and arising from the quest for excellence in one of the twelve fundamental cultural forms that together make up culture and form Humanity: Art, Techne, Education, Language, Myth, Ritual, Music, Morality, Game, Trade, Tribe, and Kin.

Before 3000 BCE, humanity was divided between 95% of humans still practicing Stone Age hunting and foraging, or the 5% of humans settled into agricultural ways requiring specialized and stratified socializing. Much of that Neolithic period from 10,000 BCE to 3,000 BCE remains opaque to archaeological and historical research, even concerning permanent villages and river valley cities. Yet this truly was the great age of domination by the Praxes holding complex culture together, across the vast domains of artisanship, civic architecture, and epic narrative; divination, ancestor worship, and ceremonial cult; and long-distance trade, organized religion, and rising nationhood.

Long before scholarly academics, twelve Scholarly Praxes had already reached impressive heights, especially during the long Bronze Age. For example, the artisan design of technology borrows from art critique; teaching language fluency involves literary criticism; the study of ritual, dance, and music enriches theatrical drama; and military arts forge a team ethos for tribalistic battle. The way that humanity is regarded a noble species – our enthusiasms for fine arts, crafted goods, formal education, fine literature, monotheism, public theater, personal ethics, athletic sports, wealth, good government, and just war — are all actually less than 5,000 years old.

By the time of the Bronze Age, for each fundamental cultural form there was a matching Scholarly Praxis fostering and instructing human excellence, thusly:

> Art critique, Technical arts, Youth pedagogy, Literary criticism, Religious ecumenics, Ritual propriety
> Music criticism, Moral wisdom, Sport training, Market commerce, Political governance, Family counseling

These scholarly praxes only require the accumulation of practical expertise guided by manuals, guides, scripts, textbooks, and treatises of the sort generated and perpetuated by scribal scholars. They appear in any civilization able to foster scholarly communities and manuscript depositories. They all go back to the Bronze Age, long pre-dating the high levels of literacy and scholarly activity necessary for academic methodologies and communities. The Scholarly Praxes aim at explication and prescription for performance improvement. Their mission is to promote and sustain high expertise and mastery in their respective areas of human endeavor, and ensure that their practices are fully explicated through principles and instructed with refined practices. They needn't be pursued in "pure" devoted forms, as they often borrow from neighboring praxes.

During the early Iron Age (c. 500 BCE) the academic disciplines were coming into their recognizable forms across several civilizations from Greece and Egypt to India and China. Each of the eight academic disciplines were gradually formed from the 12 Scholarly Praxes, by way of intermediary Sage Literature.

The earliest proto-disciplines, exhibited by the Sage Literature of civilizations, were blendings of what later became separable disciplines.

Natural Cosmology: Rational explanations of the cosmos, its fundamental nature and beginnings, and its development into worldly features. Philosophy inherited metaphysical speculations about ultimate reality; scientific cosmology split off into the natural sciences. Scientists have continued to write big books about the universe in this popular genre of natural cosmology.

Natural History: Assembled accounts of explorations of many lands and seas, their remarkable features, and its animal and human habitants. Geography, earth sciences, and biology-botany-zoology later emerged from natural history. The genre of natural history carries on, with histories of a continent or an island, or an ocean or a sea, or a class of animals, or a species.

Social History: Collected chronologies and narrations about major figures and deeds, accounting for the course of past times. Academic history separated to be didactic and scientific, letting social theory and political theory explain social and political trends and good (or bad) developments. Books about peoples, heritages, "-isms," and ideologies still exemplify this genre.

Mythology: Reasoned accounts of godly origins and deeds that were responsible for the cosmos, its structuring, and all the world's features, including the story of humans. After gods became just natural forces then philosophical cosmology replaced myth; theology carried on the project of keeping god(s) essential to cosmological accounts and human affairs.

The academic disciplines themselves, especially the oral and literary histories of cultures and civilizations, trace back to such proto-disciplines. Philosophy arose from sage wisdom and mythology; History from annals and epics; Social Theory from considerations about kinship grouping and community; Theology from ecumenical religious comparison; Political Theory from counsels on leadership and politics; Economics from adages on property and wealth; Science from healing and farming practices and observations of natural history; and Mathematics from solving calculations of quantities and predictions of physical motions.

After the eight academic disciplines arose, the twelve praxis disciplines could borrow from the knowledge and methods to advance their own pursuits of excellence. The combination of technologies with science is a notable example, but other blendings were just as significant. Each civilization that existed after the start of the Iron Age took advantage of theories merging political views with economics, permitting more stable and productive societies (if autocracy, kleptocracy, or environmental damage didn't disintegrate them first). Religions acquiring facility with spectorial artistic ritual for ethical edification typically propagated faster among the illiterate masses (such as Christianity into northern Europe and Buddhism into southeast Asia).

Perhaps most importantly, many Iron Age cultures fostered productive literacy among intellectual elites by blending pedagogy, literary criticism, and ritual study so that a small educated class was proficient with grammar, diction, scribing, rhetoric, oratory, argument, mathematics, and accounting — which in turn promoted a priestly caste (for religion), a courtier rank (for governing), a lawyer profession (for courts), a merchant class (for trade), and the like. These are the roots of the first disciplined Professions, which operate the pillar institutions that uphold any well-functioning civilization.

In the West, the central professions revolve around only those credentialed to wear the Robe: the cleric (in black, collared), the doctor (in white), the judge (in black), the professor (in black, hooded), and the scientist (in white labcoat). Non-Western civilizations have these professions too, or close counterparts, since there is no substitute in complex cultures for disciplined expertise. Together, the professions advance their disciplines within institutions, both for public service and disciplinary education, that in turn foster all other disciplines. The cleric leads the church and seminary; the doctor operates the hospital and medical school; the judge maintains the court and law school; the professor heads secular disciplines and universities; and the scientist organizes the clinic and laboratory.

These core professions and their institutions operate best when they freely focus on professional service to the public without interference from business or government. Where purely economic or political concerns interfere in professions or their institutions, they get corrupted and destroyed, and civilization itself is threatened. Corporations or bureaucracies can run organizations imitating the true professional institutions, but a profit or political motive only corrodes disciplined expertise and its twinned duties to truth and service. That is why autocratic kleptocrats, uncaring about society's future, target professional institutions with censorship, takeovers, or dissolution.

The engine to the academic disciplines and the professions consists of methodical thinking able to accumulate knowledge.

Methodical Thinking

Every disciplinary area of study is rooted in one or more of the eight Ur-disciplines, and it primarily applies methodical thinking. Methodical thinking is based in the deliberate control of inferences made among ideas, beliefs, judgments (and similarly contentful mental matters). The three fundamental and irreducibles modes of inferences are deduction, induction, and abduction.

In methodical thinking, *deductive inferences* attain "validity" where the conclusion is true (not conceivably false) while all its premises are taken for true, so long as all terms (referential nouns and noun phrases) in the deduction's statements are rightly conceived. Vagueness in any terms or ambiguity in any phrases lead to invalidity and deductive fallacies. Validity is hence dependent on that terminological regimentation so that no variance of meaning among a deduction's statements can derail the intended deduction of a truth from other truths. That regimentation characterizes categorical, hypothetical, and disjunctive syllogisms in their non-fallacious forms. This terminological regimentation permits an externalist conception of each term as a set, accounting for the way that categorical syllogisms can be checked for validity with Venn diagrams. Variations in understood meanings lead to some of the deductive fallacies.

In methodical thinking, *inductive inferences* attain "probability" where a pattern indicated by an exposition of true observations in the premises does extend more widely (in range, scope, scale, time, etc.) just as the conclusion estimates. Exaggerations in the conclusion lead to one or another of the inductive fallacies.

In methodical thinking, *abductive inferences* attain "credibility" where a non-evident entity hinted at by premised observed patterns has postulated features responsible for further patterns which may be discovered by controlled experiment. Complex abductions, such as scientific heuristics, incorporate stages of induction and deduction in order to prevent unneeded and unconfirmable postulations. Unneeded and unconfirmable postulations lead to abductive fallacies.

Although iterative complex abduction is characteristic of this stage of thinking, there is no single specific methodology. Deliberations among optional sorts of methods and heuristics are unavoidable, although a community of inquiry does guide such deliberations using its organon (its body of knowledge plus its methodeutic), based on the subject matter of interest. The relative emphasis that can be placed on the basis of truth (observation, observation plus reason, or reason alone), and the orientation of truth (to the past, present, or future) allows for nine methodical "theories" of truth, each with its distinctive capabilities.

Truth is from… **Truth is…**	**Observation Alone**	**Observation plus Reason**	**Reason Alone**
Retrospective	*Empiricism*: truth is what has occurred in experiences	*Realism*: truth is what reasonable belief corresponds with	*Rationalism*: truth is what the necessary principles require
Circumspective	*Subjectivism*: truth is whatever is happening in experience	*Relativism*: truth is whatever is instructed by each worldview	*Coherentism*: truth is whatever axiomatic systems can justify
Prospective	*Positivism*: truth is what will be arriving in experience	*Experimentalism*: truth is what will be learned from experiment	*Deductivism*: truth is what will be logically derived

Philosophy as the supreme Ur-Discipline must be methodically synoptic, cognizant of these nine theories of methodical truth and the academic disciplines applying them.

These views of truth ground methodological bases for the other seven primary disciplines:

History, Social Theory, Theology, Political Theory, Economics, Science, and Mathematics.

Each of the eight Ur-disciplines adopts a characteristic "approach to truth". Ideally, good philosophy adopts the synoptic overview of truth, sketched here. If there is a "best philosophy" then that philosophy will justify its prioritization among all approaches to truth. (Hint: see further below for the suggestion that Pragmatism is the best philosophy.)

An approach to truth that lends itself to disciplined thinking tends to avoid a heavy reliance on just a single theory of truth. For example, History relies on empiricism (past epics and narratives) and subjectivism (memoirs, journalism). Social Theory

applies subjectivism (for social psychology) along with relativism (for cultural anthropology). Theology relies on empiricism (what a god has revealed) and realism (what a supreme reality is like). Political Theory has its relativistic aspect (for comparative government) and its coherentist aspect (for constitutional and legal theory). Economics is both positivistic (eg. tracking market trends) and experimentalist (eg. adjusting monetary policy). Science relies on rationalism (for mathematics) and experimentalism (for theorizing). Mathematics can take rationalist (e.g. algebras), coherentist (e.g. geometries), and deductivist (e.g. intuitionism's constructivism) approaches.

The eight Ur-disciplines arise from the most fruitful pairings among the nine methodical "theories of truth". That number of eight remains contingent on the state of human culture and civilization within our historical epoch. Additional disciplines could emerge in the future. Two significant opportunities are Computation (combining machine learning's experimentalism and mathematical logic's deductivism for *autonomous* intelligence) and Ecology (systems biology forging a synthesis of sociology, politics, and economics for *sustainable* culture). There are further sub-sets that could be selected from these nine theories of truth, but they don't lead to stable approaches or fruitful disciplines. Consider these solitary or duo pairings:

Subjectivism alone is an area ready for mysticism, a long-standing cultural practice, but no stable basis for anything intellectual. Taking one's certainties for reliable knowledge (when one "truly cannot conceive otherwise") only lends the appearance of knowledge but in practice this fixation tends towards either Rationalism or Positivism, since discursive thinking must be socially shareable with the same concepts, observations, and so on. In modern philosophy, Cartesianism bifurcates in that manner, or else it degenerates into solipsism. The same dilemma and fate awaited 20th century phenomenology.

Coherentism alone yields no disciplinary thinking, since a community of methodical inquirers need never converge on any theoretical ontology or worldview. Coherent theories anchored by some empirical facts sends one in the direction of *Realism* or at least *Relativism*, permitting disciplinary thinking. Even an entirely abstract field such as mathematics or logic puts one foot in a neighboring view of truth. Of the endless number of axiomatic systems for logic, for example, only a few display the simplicity and completeness needed for usefully regimenting some subject area of propositional knowledge. The same goes for geometries and algebraic systems.

Deductivism alone at most lends itself to a philosophy of mathematics usually labeled as intuitionism or constructivism, and could not possibly be helpful with any empirical real-world matter. Even in imaginative pure mathematics, deductivism promptly encounters an infinite regress dilemma of justification, and resorts to self-justifying intuitive premises. (The alternative, approving circular routes of justification, ends up with *Coherentism*.) This intuitionism amounts to *Subjectivism*, and its interminable disputes over what is more conceivable and more inconceivable, which is really a psychological matter in substance. The view of psychologism in mathematics (like psychologism in logic) is an anathema to purists, but some compromise must be found, since *Deductivism* cannot be sustained. It would be no surprise to other disciplines, including science, that the real foundations of all mathematics lie in developmental psychology (with the teaching of numbers and arithmetic) and in the refined heuristics of *Experimentalism* (where mathematical constructs serve formulaic expressions for testable natural relations and regularities).

Realism paired with *Positivism* is far too unstable to permit sustained disciplinary thinking. Doing equal justice to both perspectives results in an emaciated phenomenalism, hardly distinguishable from solipsism. The more that phenomenalism insists that reality is exhausted by what keeps coming in ever-fresh experience, the more that all this bountiful "reality" is neutrally chaotic and inherently unknowable. When phenomenalism proposes that regularities to patterns of arriving experience are to be more trusted (since one cannot keep "guessing" whether a rock released from the hand will fall or float), those regularities must be learned through *Experimentalism*, and robust abductive inquiry lends credence to the realism of unobservables (such as atoms and forces) which conflicts with the point of *Positivism*.

Which one among these theories of truth are the most conducive to expert disciplinary thinking across any and all subject matters? The answer is *Experimentalism*. It incorporates the sensible features of other theories, while explaining why other features lack sensibility altogether.

Experimentalism incorporates the actual-world focus of *Empiricism* and *Positivism*, relies on the systemic checks of *Coherentism*, and warrants theoretical conclusions worthy of abductive *Realism*. Disciplined experimentalism conducted by a community of inquirers surmounts *Relativism* by allowing for gradual convergence towards highly-confirmed theories, and by encouraging coordinations (with philosophical advice) among the ontologies of related fields. The perennial opponents to *Experimentalism* are Rationalistic Realism and Subjectivist Relativism. Surely there must be far more to reality than just what

instrument-wielding explorers manage to measure, according to both opponents. “Experimentalism assumes what it cannot prove, a mind-independent reality already arranged in a rational manner!” avows Rationalistic Realism. “Experimentalism overlooks what is most knowable for anyone, the phenomenal field of valuable certainties in actual lived experience!” proclaims Subjectivist Relativism. Unimpressed by experimentalist disavowals of untestable metaphysics, rationalist metaphysics upholds undeniable conceptions and categories responsible for all possible encounterable events, where strict necessities rule. Unimpressed by experimental invitations to put convictions to trial by further collective action, subjectivist relativism poses as the protector of individual diversity, where open possibilities beckon. From experimentalism’s standpoint, rationalistic realism veers off into metaphysical idealism (such as theism) or dualism, both effectively blocking the road of disciplined inquiry with arbitrary walls. As for subjectivist relativism, its real enemy is reductivist or eliminativist scientism, not perspective-admiring and creativity-friendly experimentalism.

Where experimentalism philosophically justifies its broadly cultural and disciplinary engagements and answers protestations by rival theories of truth, it develops into the process philosophy of *Pragmatism*. Pragmatism can settle the ancient epistemic problem of the Criterion and the modern Gettier problem for knowledge, and pragmatism also overcomes the supposed scheme-content distinction, the noumenal-phenomenal divide, and the fact-value dichotomy. Pragmatism, thanks to its philosophy of science grounded in abductive methodology, reconnects the logics of discovery and justification, locates the demarcation between science and pseudo-science, legitimates scientific realism, and accounts for responsible scientific communities. Pragmatism is a type of empirical and cultural Naturalism (not a scientistic naturalism), and it is the most philosophically robust kind of naturalism. For our purposes here, we shall leave off with the additional claim, to be explained elsewhere, that among all philosophies, pragmatism exemplifies the approach to truth that every discipline adopts at its most rigorous heights, and pragmatism is the philosophy hospitable to incorporating knowledge from all other disciplines.

Disciplinary Thinking

"for possibly the sciences are infinite in number..."
– Aristotle, On Sophistical Refutations, part 9

Disciplinary thinking is not a seventh stage of thinking, but rather the philosophical (synoptic) elaboration of methodical ways of thinking as conducted by expert communities. Strictly speaking, only something like a discipline can conduct methodical thinking with excellence for any multi-generational stretch of time. Where disciplined (that is, expert community-trained) thinking occurs, it is essentially about methodical thinking, conducted by groups for maximal performance and most reliable results in the long run.

The answer to the question, "What is Knowledge?" lies in disciplinary thinking. Understanding truth is prior to understanding knowledge, since the pursuit of truth is the aim of knowledge and knowledge cannot be a criterion of truth. (In mysticism, where any distinction between knowledge and truth evaporates in a self-illuminating manner, knowing is in itself truth, but this abandons discursive and inferential thinking.)

The eight academic disciplines cooperate and compete by turn, each methodologically well-grounded for inquiries into their various areas of interest. However, as a primary discipline of methodological soundness, each one is also capable of supposing that anything, and possibly everything, can be understood through its particular approach. Philosophy's synoptic nature is no less comprehensive, at this meta-disciplinary level, by urging coherence among disciplinary perspectives, and offering ontological coordinations.

This disciplinary synopticism relieves philosophy of any self-imposed responsibility for all knowledge, truth, and reality (although rationalist metaphysics makes the perennial attempt). Competitions among disciplines for superior explanatory range and depth cannot be prevented, but they must be refereed and managed with philosophy's oversight, especially where one discipline tries to subsume another under its own approach.

There are eight Ur-disciplines — Philosophy, History, Social Theory, Theology, Political Theory, Economics, Science, and Mathematics — and they are listed in that precise order for these reasons.

1. As history recounts, philosophy was chronologically the first discipline to arise in several early civilizations, followed by history, social theory, theology, political theory, economics, science, and mathematics.

2. Each discipline after philosophy is organized through philosophy's categories of explanation: the *Cosmology* issues about What Is (ontology) and How to Know It (epistemology); and the *Orthology* issues of Why It Matters (axiology) and What's It End (ethics).

3. Philosophically, they are listed in the order of ontological breadth, from philosophy's capacious interest in all being (actual, possible, abstract), on to successive disciplines having smaller and smaller scopes, down to science's tight focus on efficacious matters and mathematics' concern with non-existent concepts.

4. Humanistically, they are listed in the order of orthological valence, from philosophy's expansive appreciation for agency (dynamic, purposive, imaginative), on to successive disciplines with smaller and smaller conceptions of agency, down to the assertive agents of politics, the acquisitive agents of economics, and the animated agents of biology.

5. After philosophy, each successive discipline depends on the work and insights of disciplines above them. A discipline's theoretical paradigms openly or tacitly appeal to presuppositions and information grounded in higher disciplines. A higher discipline consults confirmed information from lower disciplines, but a higher discipline's paradigms should not depend on those of lower disciplines.

Philosophy from its beginnings in the early Iron Age, across every civilization that arrived at Academics, consisted basically of Cosmology and Orthology. Its roots in Sage Literature disprove the notion that philosophy suddenly erupted into intellectual minds. Epic literature and Axial religion bequeathed its overarching themes. Narrative epic entranced the imagination with Cosmic scope (the great stages for divine and human roles) and Heroic stance (the highest ideals to worthy purposes). Axial

religions fixated the intellect on Cosmogony (how did all creation come to be?) and Orthopraxy (how should humans orient ritual piety?).

History is the most philosophical of all the non-philosophy disciplines, inquiring into humanity's understanding of itself as participating in an epoch of cosmic history and enacting successive ages of human history.

Social Theory is inspired by philosophical interests and informed by historical perspectives, and it cannot be conducted without them.

Theology arose as religious intellectuals enlarged upon inter-religious comparison to ponder how to explain and perpetuate religiosity in philosophical, historical, and social ways.

Political theory similarly arose as intellectuals sought explanations for governing power through philosophical, historical, social, and religious considerations.

Economics is a refinement of political theory, focusing on the power and productivity to systems of material exchange value.

Science has two main sub-disciplines, natural science and life science, seeking explanations through non-agential entities.

Mathematics originated in early scientific problems requiring formulable or calculable solutions to algebraic and geometric problems.

Primary Academic Disciplines	**Main Areas**	**More subdisciplines, fields**
PHILOSOPHY Debates what is fundamentally real, truly knowable, and most valuable.	Cosmology Orthology	Metaphysics, Epistemology, Logic Axiology, Aesthetics, Ethics {scientific form = Positivism}
HISTORY Narrates the course of events and consequences of human deeds.	World History Local History	[boundary area = Philosophical History] Intellectual History, Public History, National History Ancient History, Historiography, Journalism, Biography {scientific forms = Natural History, Big History}
SOCIAL THEORY Observes how social relations, practices, and organizations operate and develop.	Anthropology Psychology	[boundary area = Social History] Archaeology, Geography, Ethnography, Linguistics Abnormal Psych., Developmental Psych., Cognitive Science {scientific forms = Experimental Psychology, Sociology}
THEOLOGY Discerns the essential commitments that contribute to the religious path.	Systematic Theology Practical Theology	[boundary area = Social Theology] Dogmatics, Ecumenical Theology, Syncretic Theology Spirituality, Charismatics, Hermeneutics, Ecclesiology {scientific form = Natural Theology}
POLITICAL THEORY Examines structures of ruling power and standards for legitimate authority.	Comparative Politics Government	[boundary area = Civic Religion] Diplomacy and War, International Relations, World Systems Public Administration, Policy, Law, Criminology, Jurisprudence {scientific form = Political Science}

ECONOMICS Formulates how exchange systems make and distribute goods and wealth.	 Macro Economics Micro Economics	[boundary area = Political Economy] Monetary Policy, Public Finance, Global Economics Accounting, Management, Industrial Organization {scientific form = Empirical Economics}
SCIENCE Confirms hypothetical explanations through strict experimental methods.	Natural Sciences Life Sciences	Astronomy, Physics, Chemistry, Materials Science Geology, Hydrology, Geochemistry, Earth Sciences Biology, Physiology, Genetics, Medicine, Psychiatry Ecology, Botany, Zoology, Ethology, Paleontology
MATHEMATICS Formulates and derives theorems about abstract relations from simple axioms.	 Geometry Calculation	[boundary area = Biostatistics] Topology, Group Theory, Set Theory Arithmetic, Algebra, Calculus, Statistics {scientific forms = Computing Informatics, Artificial Intelligence}

The first three Academic Disciplines – Philosophy, History, and Social Theory – are also three core humanities, fundamental to the rest of Humanities disciplines conducted within academia. In addition, the Human Sciences incorporate some methods and knowledge of the sciences. Human sciences do not conduct controlled experiments themselves, but they are heavily empirical and incorporate scientific knowledge.

The primary Ur-Disciplines – Philosophy, History, and Social Theory – together generate all other disciplinary areas and fields. Due to their principled and historical priority, they always threaten to absorb any of the rest into their own categories and paradigms. History can regard economic matters as just economic history to be described historically; Sociology can regard legal matters as merely civic politics to be examined sociologically; and so on.

That vast explanatory power, grounded in the cosmological and orthological purviews inherent to each Ur-Discipline, also allows Philosophy, History, and Social Theory to explode apart. Philosophers craft metaphysical systems dismissing real value, or axiological systems uninterested in cold reality. Historiography swings between the extremes of world history and personal biography as the "closest" to historical accuracy. Social Theory fragments easily, as Sociology demands its independence from Anthropology and Psychology revolts from them both. T

Nevertheless, the essential bonds among the Ur-Disciplines are revealed when one, or any paring, tackles a big subject like "religion," "art," or "morality." For example, as soon as psychology "explains" religious belief subjectively, theorists have to point out the undue neglect of culture, or social history, to fully explain actual religions. As another example, anthropology's general account of art overlooks the proclivities of artists to make their art within artworld social contexts. Anthropology, Sociology, and Psychology must collaborate to synthesize adequate accounts of human enterprises and accomplishments.

The eight academic disciplines supplemented the twelve scholarly praxes, and then enhanced them. Academia adopted the scholarly praxes to elevate them to Humanities disciplines. The scholarly praxes also carried on outside of academia, and to this day plenty of study and publishing offers their practical advice. These lists are comprehensive across areas and disciplines but they are illustrative, not exhaustive.

Cultural Praxes	**Humanities Areas**	**Human Science Disciplines**
All Literature	Dictionary, Reference, Research, Translation	Bibliographical Studies, Antiquarian Research, Encyclopedia Studies, Publishing Studies, Library Science, Information Science
All Praxes	Cultural Studies, Race Studies, Ethnic Studies, Global Studies, Women Studies, etc.	Archaeology, Ethnography, Behavioral Sciences, Social Psychology, Human Geography, Communications, Social Work, Public Health, Peace & Conflict Studies, etc.

Education	Education, Pedagogy, Special Education	Educational Research (with Sociology, Anthropology) Educational Psychology (with Psychology, Neuroscience)
Language	Rhetoric, Languages, Literary Theory, Media Studies	Philology, Linguistics, Semiotics (with History, Sociology) Communication Science (with Linguistics, Sociology)
Religion	Meditation, Mythology, Religious Studies	Science of Religion (with Sociology, Psychology) Evolution of Religion (with Anthropology, Cognitive Science)
Performing Arts	Music Theory, Dramatic Theory, Theatre Studies, Film Studies	Musicology (with Anthropology, Psychology, Neuroscience) Entertainment Production (with Engineering)
Plastic Arts	Art History, Art Theory, Architectural Theory	Neuroaesthetics (with Philosophy, Psychology, Neuroscience) Creativity Psychology (with Aesthetics, Psychology, Anthropology)
Technology	Technology Studies, Technology Futurism	Design Research (with Sociology, Engineering) Ergonomics (with Physiology, Psychology)
Commerce	Organization Studies, Executive Leadership	Business Studies, Marketing (with Sociology, Psychology) Management (with Sociology, Psychology)
Ritual	Ritual Studies, Performance Studies	Ritual Ethnology (with Anthropology, Sociology, Semiotics) Civic Ceremonialism (with Sociology, Political Science)
Sport	Coaching, Sports Studies, Gaming Studies	Sports Science (with Physiology, Dietetics, Medicine, Psychology) Video Gaming (with Psychology, Media Studies)
Morality	Etiquette, Self-Improvement, Character Growth	Moral Psychology (with Anthropology, Sociology, Psychology) Neuroethics (with Cognitive Science, Neuroscience)
Politics	Legal Studies, International Relations, Military Studies	Political Science (with Sociology, Economics) Military Science (with Engineering, Management)
Family	Relationship Counseling, Sex & Gender Studies	Family Therapy (with Psychology, Psychiatry) Psychoanalysis (with Psychology, Psychiatry)

The Humanities areas are grounded in the older literary mode of Sage Literature, not the newer Academic Disciplines. After the Disciplines arose, Humanities areas could consult Human Science disciplines for greater empirical cogency. When we think about an area such as Media Studies or Women Studies, they look like “disciplines” as well as humanities areas, thanks to advising Human Science disciplines. Nevertheless, that cooperation is optional and contingent, depending on the willingness of a Humanities area to incorporate disciplined theories. That willingness may be absent.

Why would a Humanities area avoid consultations with, and theoretical upgrades from, Human Science disciplines and academic disciplines such as Anthropology, Sociology, Political Science, Economics, or Biology? The driving mission of the Humanities revolves around the cultivation and comprehension of human praxes for the sake of Humanity. The humanities must be intrinsically *humanistic*, and they will not willingly betray that entrusted mission. A *humanistic* understanding of human agency, avocations, and activities promotes them rather than degrades or devalues them. From time to time, this or that discipline can appear to threaten a degradation or disablement of human achievement. Explanations can get viewed as limitations or eliminations of agency, or as ideological justifications favoring established dominations and tyrannies.

When a Humanities area perceives that threat, warning alarms resound against that “anti-humanistic” encroachment. A Humanities area, such as Literary Theory, Religious Studies, or Gender Studies for example, may turn against one of the social or behavioral sciences, or political science, or macroeconomics – or an area could even decide to denounce many disciplines altogether, in order to protect the valid worthiness to human equality and endeavor. Does sociology account for literary

greatness? Ridiculous– authorial creativity cannot be programmed! Can cognitive science "explain" religious belief? Nonsense– spiritual inspiration cannot be rationalized! Would sociobiology dictate our sexuality? Hands off– desire won't be predestined! Any "disciplining" of the human being by the disciplines may only amount to unjustly dictating a subordinate or subhuman status to the world's disadvantaged and dominated. The human *subject* must be more than the *ruled* subject. The Humanities stand on the edge of revolt and revolution, if humans are forbidden from emancipation and evolution.

To forestall disciplinary encroachments, humanities try to infiltrate and inhabit a few disciplines. Typical disciplines hospitable to humanities encampment have been ethics, social history, social theory, psychology, hermeneutics, and civic religion – wherever human worth is worth more than utility. A "humanistic" social theory, for example, refuses to accept sociological "determinisms" allegedly controlling human liberty. A "humanistic" psychology positively centers on the individual's own virtue and autonomy. Similarly, a "humanistic" hermeneutics encourages an inclusive ethos of mutual intelligibility.

Among all the disciplines, Philosophy can deeply sympathize with aspirations and grievances of Humanities areas. Philosophical topics are often classed along with Humanities interests, such as 'human nature', 'free will', 'moral judgment', 'the human spirit', 'liberty', and 'autonomy'. However, Philosophy should resist the temptation to submerge into literary, mythic, or cultural critique. As the preeminent Ur-Discipline, its fullest powers manage the synoptic *organon* for all intellectual methodology. When another discipline severely threatens human worth – especially where agency, opportunity, and dignity get dismissed to the point of disappearance – then Philosophy asserts its humanistic *and* disciplined prerogative to disprove that unruly discipline's pretensions. Properly disciplined sciences only enlarge the vistas and the capacities of both mind *and* spirit, enlightening and enriching our human experience.

Disciplinary Studies into the Praxes

> The Master said, "Those who pursue different ways (dao 道) cannot consult each other." *Analects* 15.40
> (Peimin Ni, *Understanding the Analects of Confucius*, 2017, p. 373.).

Philosophy remains the supreme Ur-discipline, revealed here by the way that "Philosophy of ___" is a disciplinary effort done best by assessing knowledge from all of the subfields in its column. For example, Philosophy of Education should foster and incorporate the Ethics, History, Anthropology, Psychology (and so on) of Education. All disciplines are interconnected; no discipline really goes its own way alone, so they can always consult each other.

A few examples illustrate the methodological potency of combining disciplinary inquiries. The conjunction of history methods with forensics allows paleo-archaeology and art authentication, while investigative reporting (another sub-discipline of History) would be negligent for ignoring academically-gathered information. Culture studies, whether about ethnic/religious heritage or contemporary sub-grouping, benefits from scientific findings from demographics, behavioral sciences, and the like. Commerce would be unthinkable without the mathematics of accounting and finance. The political sub-discipline of criminology consults forensic science and abnormal psychology. Scientific engineering spawned many fields from aeronautics, bioengineering, and computing to industrial manufacturing, sanitation, and urban planning.

The seven Ur-disciplines (aside from pure math) cross-fertilize the academic study of the seven main domains of cultural praxes (the Arts include music and theater). This table could be enlarged for commerce, sport, politics, and family.

49 SUBFIELDS (7 Disciplines studying 7 praxes)	Main Areas	**Arts** & art critique	**Techne** & engineering	**Education** & pedagogy	**Narrative** & literary crit.	**Ritual** & propriety	**Religion** & rel. studies	**Morality** & moral wisdom
PHILOSOPHY Debates what is basically real, truly knowable, and most valuable.	Cosmo-logy	Philosophy of Art	Philosophy of Technology	Philosophy of Education	Philosophy & Literature	Philosophy of Ritual	Philosophy of Religion	Metaethics
	Ethics	Ethics of Art	Ethics of Technology	Educational Ethics	Ethics of Literature	Ritual Ethics	Religious Ethics	Moral Philosophy
HISTORY Narrates the course of events and consequences of human deeds.	World History	History of Art	History of Technology	History of Education	History of Literature	History of Ritual	History of Religion	History of Morality
	Local History	Artistic Movements	Technological Heritages	Educational Heritages	Literary Traditions	Ritualistic Traditions	Religious Traditions	Moral Customs
SOCIOLOGY Observes how social relations, practices, and organizations operate.	Anthro-pology	Anthropo-logy of Art	Anthropology of Technol.	Anthropology of Education	Ethnography & Literature	Ethnography of Rituals	Ethnography of Religions	Ethnography of Morals
	Psycho-logy	Psychology of Art	Psychology of Technology	Educational Psychology	Literary Psychology	Psychology of Ritual	Psychology of Religion	Moral Psychology
THEOLOGY Discerns the essential commit-ments that motivate the religious path.	Systema-tic Theol.	Theological Aesthetics	Theology of Technology	Theology of Education	Theological Hermeneutics	Theology of Ritualism	Comparative Theology	Theological Ethics
	Practical Theology	Religious Arts	Church Media	Educational Spirituality	Sermon Homiletics	Sacramental Rites	Ecumenical Preparation	Moral Counseling

POLITICS Examines structures of ruling power & standards for legitimate authority.	Compara-tive Politics	Politics & the Arts	Technology Regulation	Public Education	Politics of Literature	Political Ritualism	Church & State Studies	Leadership Virtues
	Govern-ment	Public Arts	Infrastructure Policy	Educational Policy	Protest & Propaganda	Political Ceremony	Civic Religion	Government Ethics Policy
ECONOMICS Formulates how exchange systems distribute goods and wealth.	Macro Econ.	Economics & the Arts	Technology Economics	Economics of Education	Economics & Literature	Economics of Public Ritual	Economics of Religion	Game Theory of Morality
	Micro Econ.	Art World Economics	Technology Investment	Educational Attainment	Publishing Economics	Ceremony Economics	Church Economics	Virtue Signals Theory
SCIENCE Confirms hypothetical explanations through strict experimental methods.	Natural Sciences	Artwork Authenticity	Materials Sciences	Nat. Sciences Education	Science Literature	Scientific Ritualism	Religious Naturalism	Cosmic Wisdom
	Life Sciences	Artwork Archaeology	Bio & Eco Engineering	Life Sciences Education	Natural History Literature	Ritualistic Wellness	Epidemiology of Religion	Nature Wisdom

Philosophy of the Arts/Literature, Philosophy of Education, Philosophy of Religion, and Moral Philosophy/Ethics must vigilantly supervise other disciplinary theories about these core humanistic areas of culture. Disciplines such as History, Politics, and Economics can construct areas of concentrated study to improve theoretical understandings of the performing, plastic, and literary arts, and intellectually refine the practices of religion and morality.

However, those academic disciplines can also distort understandings of these humanistic areas of culture, and other areas as well. Six disciplines must be philosophically monitored, to watch for accounts of humanistic areas that reduce their meaning to the way that a discipline thinks. Philosophy should not endorse any of these disciplinary distortions:

	The Arts	**Education**	**Religion**	**Morality**
HISTORY Generally	Art is whatever historians of art have selected as exemplary art.	Education is culture's perpetuation of preferred custom.	Religion dramatizes the spiritual story of humanity.	Morality is what a historical period deems as acceptable conduct.
or Locally	Art is whatever an art genre has encouraged as stylistically artistic.	Education is society's control over common belief.	Religion is the story of charismatic leaders and lasting churches.	Morality is what a particular era praises as exemplary conduct.
SOCIOLOGY Generally	Art is whatever gains cultural appreciation for expressing shared values.	Whatever is learned installs useful skills up to normal levels.	Religion is whatever reinforces solidarity with sacredness.	Morality is the virtues expected by society.
or Locally	Art is whatever an art movement or institution chooses to credit as artistic.	Whatever is learned attains special skills up to a mastery level.	Religion is whatever compels sacrifice for communal priorities.	Morality is the duties of one's place in society.
THEOLOGY Generally	Art is what strives to reflect and glorify the divine.	Instruction consists of truths about life's proper purposes and goals.	Religion is the truth about supreme reality and its plans.	Morality is consistency with the ways of supreme reality.
or Locally	Art is what strives to illuminate and ennoble the human spirit.	Instruction consists of truths about attaining virtue and wisdom.	Religions are inferior prototypes compared to the one true faith.	Morality is conformity to the evident design of the created human.

POLITICS Generally	Art should be what celebrates the powerful and noble.	What is taught should be what reinforces the views of legitimate authority.	Religion should recognize governing authority as sacredly legitimate.	Morality consists of imperatives, like commands.
or Locally	Art should be what elites appreciate as artistic and excellent.	What is taught should be what supports the civic order and stability.	Religion should indoctrinate respect and obedience towards ruling authority.	Morality consists of explicit rules, like laws.
ECONOMICS Generally	Art is what has collectible scarcity without utility so only price signals quality.	Education installs training required for productivity in the workforce.	Religions invent goods of infinite value in exchange for unlimited costs.	Morality is set by voluntary bargains, like contracts.
or Locally	Art is what has sensible beauty without boredom so it is reliably enjoyable.	Education instills the ideology promulgated by the wealthy class.	Religions are esoteric guilds selling access to salvation.	Morality is set by convention to enforce agreements, like treaties.
SCIENCE Generally	Art has formal features that allow unities and harmonies in complexity and diversity.	What should be taught are methods to explore and discover new knowledge.	Religions are organized resistance against scientific truth.	Morality refers to behaviors appearing generous, but never really are.
or Locally	Art has representational features that evoke images, memories, and feelings.	What should be taught are methods to skeptically examine any ideas.	Religions are mass delusions caused by deceptive cognitive biases.	Morality refers to behaviors functioning to promote fair cooperation.

The proper remedy for disciplinary distortions to humanistic endeavors is to return to the careful study of the twelve cultural praxes while applying understandings from all academic perspectives. “Art,” “Education,” “Religion,” and “Morality” are never just one sort of thing, and no single discipline will ever comprehend it the best.

Among the eight Ur-disciplines, they can also lend multiple perspectives on each other. Their combinations (not reductions) among each other can open a space for interdisciplinary areas. For example, Social history is a straightforward combination of History and Social Theory; Comparative anthropology is another. Theology, for ecclesiastical or hermeneutical matters, is indebted to history and social theory, as is Political theology. Political Theory solicits knowledge from Social history and Social Theory. Political economy, especially macro-economics, combines Social history, History of economics, and Public administration.

	Philosophy	**History**	**Social Theory**	**Theology**	**Political Theory**	**Economics**	**Science**	**Math**
Philosophy of	meta-philosophy	philosophy of history	social philosophy	philosophical theology	political philosophy	philosophy of economics	philosophy of science	philosophy of math
History of	history of philosophy	historiography	historical sociology	history of theology	history of politics	history of economics	history of science	history of math
Social Theory of	sociology of philosophy	socio-history	comparative sociology	sociology of religion	sociology of politics	sociology of economy	sociology of science	cognitive mathematics
Theology of	theological philosophy	theological history	theological sociology	comparative theology	political theology	theological economics	natural theology	theology of math
Political Theory of	politics of philosophy	political history	political sociology	politics of religion	comparative politics	political economy	politics of science	politics of math
Economics of	economics of philosophy	economic history	economic sociology	economics of religion	economic policy	comparative economics	economics of science	finite con-straint math
Science of	scientific philosophy	scientific history	scientific sociology	scientific theology	political science	scientific economics	methodology studies	computational math
Mathematics of	platonist philosophy	historical deter-minism	social deter-minism	platonist theology	rationalist decisions	game theory	field, flow equations	metamathe-matics

Just as any discipline can be scientific to improve its knowledge, any discipline will be philosophical to some extent. Philosophy itself of course is sufficiently philosophical, just as any scientific field is scientific already. So-called meta-physics or meta-epistemology or meta-philosophy or comparative philosophy is just sophisticated philosophy.

Philosophy itself has two primary sub-disciplines: cosmology (what is knowably real, e.g. metaphysics, ontology, epistemology) and orthology (what has genuine value, e.g. ethics, aesthetics). Philosophical History consists of historiography and philosophy of history; Social Theory gets philosophical in its deepest theoretical assumptions and speculations; Philosophical Theology strives for systemic coherence in metaphysical and ethical dimensions; Philosophical Political Theory, or political philosophy, ponders the axiological grounds (e.g. self-interest or justice) justifying political legitimacy; Philosophical Economics ponders the nature of exchange value, rational choices, and just distributions. Philosophical Science, or simply philosophy of science, is philosophy's examination of scientific ontologies, methodologies, and axiologies.

Any discipline, sub-discipline, or disciplinary area can be treated philosophically. In general, "Philosophy of ___" consists of deliberations about the area's fundamental entities (its ontology), core methodologies (its epistemology), its prioritized values (its axiology), and its moral standards (its ethics).

Any or all of the Ur-disciplines can be the targets of political anti-intellectualism, since academics must resist such skepticism, propaganda, and Post Truth. In response, disciplines (and their sub-disciplines) typically establish Professions to match undue civic pressure with a pseudo-tribal front that broader society can at least grasp (for the masses won't really understand intellectual disciplines unless higher education is widely accessible). Disciplines and Professions are two different things, although disciplines tend to professionalize for both internal and external reasons. The civic operation of Professions by disciplines is the topic of another lecture.

Disciplinary Modes and Methods of Truth, Compared

As epistemology realizes, none of the nine modes of truth can be easily subsumed or absorbed into another mode. Contests among them do periodically erupt, often due to those disciplinary competitions for methodological supremacy. Proposed rankings of modes, from superior to inferior apprehensions of truth, have pre-occupied every rank of philosopher from singular greats such as Plato and Kant to legions of partisans for one discipline or another.

Contrasts and clashes among the four basic modes of truth — true witnessing, true conception, true exposition, and true inference — reveal failures to render truth: the errors, fallibilities, fallacies, and biases among our cognitive processes.

A *mode of truth* applies its own standard to detect *error*. Four different sorts of error are thereby discriminated: falsity, ambiguity, partiality, and fallacy. Witnessing takes the *falsity* of deception as the essence of error. Conception finds *ambiguity* to be error's opportunity. Exposition cannot abide *partiality* and its tolerance for error. Inference distinguishes legitimate forms of deduction, induction, and abduction apart from errors of *fallacy*.

Each mode of truth accuses the others of *fallibility* – an incapacity to attain truth. Four kinds of fallibility are faulted: fabrication, fantasy, fiction, and fixation. For Subjectivism, straying from what is certain involves *fabrication*. For Rationalism, ideas left vague are conducive to *fantasy*. For Relativism, what cannot be assimilated as fact is instead *fiction*. For Cognitivism, a belief resistant to reasoning is just a *fixation*.

Regarding the nine theories of truth, from empiricism to deductivism, each one upholds its own methodological standards. Each theory of truth has its attached epistemological "ism", from Empiricism to Deductivism, which derogates the other eight theories for inadequacies due to *methodological errors*.

Regarding the eight Ur-disciplines, each one regards its own approach to truth (its distinctive blend of selected truth theories) as methodically superior while it judges other methods to be *disciplinarily errant* (and not merely methodically erroneous). This methodological dispute promptly becomes an ontological dispute, where each discipline regards its ontology as more fundamental than any others. That judgmental attitude arrays disciplines against each other into rivalries.

From one discipline's narrow perspective, another's discipline's postulated entities don't "really" exist and cannot be quite explanatory. For example, Theology's own account of past divine acts must regard contrary accounts from History as merely incidental or entirely irrelevant. Similarly, a purely Economic explanation for great civic events, such as a war, errantly misses the point according to Political Theory. As another example, Social Theory resists explanations for culture solely in terms of Science's evolutionary genetics. When a discipline not only disputes another's discipline's errant relevance but entirely dismisses its explanatory power, that discipline is effectively accused of offering only "fable" and "myth".

Disciplines, Compared

Ontological disputes are common among disciplines, each imposing its own categories for what is real on the other disciplines. No discipline can be blamed for this ontological partiality, but rational limits must be placed on one discipline's imposition of concepts and categories on others.

Of all disciplines, Mathematics has the most general applicability; any discipline denying the applicability of basic math and formulas in its arena of inquiry only degenerates into fantasy. Science's ontologies prevail across the rest of the disciplines with the exception of philosophy, because philosophical cosmology blends science into a broader worldview and ethics deals with ideal norms that cannot be disputed by facts.

Because Philosophy should incorporate and harmonize all other disciplinary knowledge, it cannot be overruled, but it must be instructed. As we shall observe below, Philosophy has the unique responsibility to adjudicate methodological disputes among the disciplines. As for the other seven Ur-disciplines, their ranking for their ontological supremacy (or ontological priority – what is more real?) is Science, Economics, Political Theory, Theology, Social Theory, History. This ranking is due to the way this ordering proceeds according to ontological scope, from the greatest specificity to the greatest generality.

	Economics "Did their exchange system have features shaped by X?"	Political Theory "Did their rulers try to manage a response to X?"	Theology "Did their religion suggest how to deal with X?"	Social Theory "Did their social group practice X?"	History "Did they describe their situation by referring to X?
Science "They died from X" (eg cholera or cancer)"	Irrelevant – they died of X	Irrelevant – they died of X	Irrelevant – they died of X	Irrelevant – they died of X	Irrelevant – they died of X
Economics "Their market suffered from scarce X" (eg hard currency)	Relevant – possibly a false claim, unless X is part of their economy	Irrelevant – a government need not recognize X	Irrelevant – a religion need not understand X	Irrelevant – a society need not think about X	Irrelevant – people don't need to have a concept of X
Political Theory "Their ruler became more X" (eg corrupt or autocratic)	Relevant – possibly a false claim; depends if X could be a factor to their economy	Relevant – possibly a false claim; depends if X could feature in their government	Irrelevant – a religion need not understand X	Irrelevant – a society need not think about X	Irrelevant – people don't need to have a concept of X
Theology "Their myths allow for X" (eg usury, oaths, polytheism)	Relevant – possibly a false claim; depends if X is a factor to their economy	Relevant – possibly a false claim; depends if X influences their government	Relevant – possibly a false claim; depends if X has a role in their religion	Irrelevant – a society need not think about X	Irrelevant – people don't need to have a concept of X
Social Theory "Their customs include X" (eg taxation, patriarchy, animal sacrifice, caste)	Relevant – possibly a false claim; depends if X has a place in their economy	Relevant – possibly a false claim; depends if X has a role in their politics	Relevant – possibly a false claim; depends if X is acknowledged in their religion.	Relevant – possibly a false claim; depends if X is done across society	Irrelevant – people don't need to have a concept of X
History "Their actions tried to achieve X" (eg profit, voting, salvation, marriage)	Relevant – possibly a false claim; depends if X is an economic option	Relevant – possibly a false claim; depends if X could be noticed by officials	Relevant – possibly a false claim; depends if X is a goal for their religion	Relevant – possibly a false claim; depends if X is socially recognized	Relevant – possibly a false claim; depends if people have a concept of X

In general, an established scientific category or entity overrules any objection from History, Social Theory, Theology, Political Theory, and Economics. People really died of cholera 2000 years ago, no matter the social conditions of medical practice, or the superstitions about evil causes of diseases. The idea of "cholera" or "oxygen" didn't have to be thought of first, before anyone could die from cholera or breathe the air. Similarly, economic facts overrule the other disciples (except science). No one in a society had to first think of the "law of supply and demand" so that after that new idea was conceived, only then did any prices of goods start rising upon their scarcity. In science and economics, real facts precede conceived ideas, whether political, religious, social, or personal.

However, if Political Theory offered a claim that a country's government (for example) is promoting nationalistic "patriotism", it is stepping over into the social arena, and Social Theory could veto that claim if this society lacks patriotic customs. Similarly, if Social Theory offered a claim that a past society encouraged "thriftiness" then it crosses into a historical domain, and History could veto that claim by pointing out that those past people did not yet have the idea of "thrift" in their minds.

Ontological priority is one thing; orthological priority (what is more valuable?) is quite another. With orthological priority, the disciplinary ordering is reversed: History, Social Theory, Theology, Political Theory, Economics, Science. Again, philosophy is responsible for final judgments about the nature of value and ultimate orthological priority.

Where a discipline offers claims that cross over onto the arenas of other disciplines, an initial consultation can prevent an embarrassing refutation. Similarly, where a discipline stays within its own arena and categories, an attempted veto from another discipline commits a hasty fallacy.

For example, if Political Theory claims that a certain European country became "secularized" during the 19th and 20th centuries, denials from Theology, Sociology, or History are fallacious and irrelevant. "Secularized" in Political Theory means "governance is less controlled by religion" and that fact is independently confirmable by Political Theory alone. If Theology replies that "Christianity has remained as essential for salvation as ever!" or if Social Theory points out that "Christian denominations have stayed culturally quite influential!" or if History recounts that "Most people have personally thought of themselves as Christian!" then all such replies fail to supply evidence against that country's secularization. Terminology can disguise the fallacies. What Theology should say is "There is no secular path to salvation." What Social Theory should say is "Churches aren't secularizing." What History should say is "People aren't viewing themselves as secular people." Those three propositions can all be accurate, while it remains just as true that their country has become quite politically secularized over two centuries. Philosophy would remind all these disciplines that simplistically talking about "secularizing" in the abstract without context commits not just epistemic fallacies, but undisciplined folly.

Disciplines have to regulate their own categories of explanation, comprehending where they best apply and where they do not. All the same, any discipline can stray into an exaggerated and overbearing posture by imposing its theories upon the arena of another discipline. Each discipline inherently regards its own methodologies and theories as superior, and surveys the entire realm of natural and human reality as the opportunity for paradigm expansion.

Since these methodological controversies are conducted in philosophical terms about proper methodology and adequate explanation, philosophy alone must adjudicate disputes in a meta-methodological manner. Philosophical schools may resort to simply siding with one or another discipline in a display of methodological partisanship. Thus, "philosophical historicism" assimilates social, religious, political, and economic views into overarching historical narrations; while a "philosophy of culture" treats all areas of knowledge as social creations and conventions; and "philosophical scientism" will countenance no view uninformed by strictly empirical investigations. The alternative for philosophy, to rise above disciplinary commitment, is to arrange a synoptic overview of methodology; exemplars are Aristotle, Kant, Mill, and Peirce. The following synoptic charts add Shook to that list.

Each disciple imitates philosophy with four grounds: it has an ontology (what has being for that discipline, the subject), a methodology (what are the methods of truth-seeking), an axiology (what has the most value), and an ethics (what is the right end). Where a discipline intensely reconsiders and justifies its grounds, it becomes philosophical. Scholars focusing on that project are doing "philosophical ____" [eg philosophical history (historiography), philosophical sociology (social theory), philosophical theology, etc.] These efforts are still part of that particular discipline, although scholars working there can bridge that discipline and philosophy.

When philosophy itself considers the grounds of a discipline in light of all other philosophical matters to ponder (negotiating two disciplines conflicting over ontologies or methodologies, or reconciling a discipline with philosophy's own metaphysics or epistemology, ethics, etc), then that effort yields "Philosophy of ____" which is still part of Philosophy. For example, there is Philosophy of History, Social Philosophy, Philosophy of Religion, Political Philosophy, Philosophy of Economics, Philosophy of Science. Within a discipline, "Philosophical __" denotes that discipline's capacity for pondering and adjusting its distinctive foundations, so every discipline overlaps with Philosophy precisely because it is so disciplined.

Philosophy, as the original and primary Ur-discipline, supplies the fundamentals of all intelligibility and explanation. Metaphysics seeks the Arche, what is most responsible for whatever being anything else can have (all that be-ing of entities of all specific ontologies). That Arche has to be comprehended by theoria rather than sensoria, relying on the criterion of ontological priority. Theoria is structured by the Principle(s) stating how Arche manages to be rationally (not randomly) responsible for the rest of reality in multiform ways, with logical consistency supply the key criterion of rationality. The adequate comprehension of Arche's principles must cohere well with an understanding of the cosmos's regular ways, to which human affairs should properly conform. What is more stable and reliable is more valuable, providing an axiological evaluation of human conduct, which in turn can be judged for pursuing worthy ends.

Synoptic philosophers has long acknowledged the four main concerns of philosophy. Aristotle's "four causes" needed for intelligible explanation point in this direction. Wilhelm Dilthey, in his 1920 *The Formation of the Historical World in the Human Sciences*, sets out the four foundations, all the classes of knowledge, for human sciences: "to the *conceptual cognition of reality*, to the *positing of values*, and to the *determination of purposes* and the *establishment of rules*... Thus the foundation of the *human sciences* requires the same extension to all classes of knowledge as is demanded in the general foundation of *philosophy*." (Dilthey, *Selected Works* vol. 3, trans. R. Makkreel et al. (Princeton UP 2002), p. 25, 26). What Dilthey meant by "human sciences" is broader than any reduction of humanistic studies down to natural science – Dilthey is instead talking about humanistic disciplines: the Ur-Disciplines and their subfields (excepting only pure mathematics).

Cosmology encompasses anything appreciable, whether in intellect, experience, or imagination. When something gets proposed as falling outside this realm, no matter its nonconceptual or nonexistent status, that very proposal automatically brings it within the purview of cosmology. Let the topic be the most inconceivable and mystical: that already comes under cosmology's interest. Cosmology's main agenda is not to confirm the reality of something (that task falls to specific areas of inquiry) but rather to show where and how it may relate to anything or everything else. The most pluralistic and disaggregate vision still offers a cosmology. Ideas about *what is* get registered by **Metaphysics**, and proposals about *what is known* get adjudicated by **Epistemology**. Metaphysics encompasses more than ontology, as ontology is limited to whatever gets positively investigated by disciplines, and remains somewhat disaggregated until the master synthesis by metaphysics does its work. To speak of "an ontology" is simply to refer to the sum total of all the terms used within a field or discipline. (Imagine a master list of all terms appearing in all of the indexes to all textbooks of that area of inquiry.) The term "metaphysics" has been defined variously by contesting philosophies, but their common topic of reality (especially the 'absolute' or 'ultimate' reality) lends "metaphysics" its core meaning. Similarly, rationalist, pragmatist, hermeneutical, and phenomenalist (and so on) methodologies are not alternatives to epistemology, but rival modes of conducting epistemology. The staunchest refusal to do metaphysics in order to examine something even "deeper" or "higher" is still doing epistemology and metaphysics, since there is no way to know more "meta" than "meta." Any "philosophy" avoiding metaphysics and epistemology entirely has a perhaps nobler career of elevating the spirit through poetry or art instead.

Philosophical systems offering only a cosmology are scarce and largely ignored, since they fail to explain why real matters are salient and actionable for thoughtful knowers. For philosophy, **Orthology** and Cosmology cannot be intelligibly divorced. Even a passive intellect has to display motivated cognition aiming at some point or another, and further judgments about values and ends inevitably follow, even if quiescent impassivity may be deemed meritorious. All the other disciplines presume that joint cooperation of cosmological and orthological inquiry. Scientific cosmology, for example, can attempt to play the role of philosophy, but its dismissal of metaphysics gets promptly retracted – ultimate "laws" of nature creating the universe from some sort of "nothing" gets as metaphysical as any philosophical system. Furthermore, scientific cosmology's depiction of "value-free" and meaningless nature still points to orthological implications about significance and purpose for existence.

Philosophy inherited its cosmological and orthological occupations from the Axial Phase's sage speculations during the early Iron Age. What is most Real and what is most Right were always intertwined and interdependent. Philosophy itself recognizes a functional distinction between them, but no wide dichotomy could persist between what *is* real and what *should be* real. Only degenerate forms of philosophy, such as positivism and nihilism, would proceed from that unintelligent divide. The

history of wisdom stands behind philosophy. From the earliest civilizations and their languages, those lexicons display the intrinsic bond among rightness, righteousness, and harmony. When a single word does double or triple-duty for these ideas then their essential linkage are evident, and the oldest language groups exemplify this connection.

Ancient Egypt used the all-important word "ma'at" to mean truth and justness, and cosmic harmony. In ancient Sumerian, the word for true, correct, honest, righteous, and justness is the same word, "zid". European languages inherited the word "right" from the Proto-Indo-European word "reg" for putting right, and its Ancient Sanskrit version "ṛta" to mean the truth or the right way. That heritage descended to Old Persian (rasta-), Greek (orektos), Latin (rectus), Old Norse (rettr), and German (recht). In the oldest religious inscriptions of China, zheng (正)means "upright" or "correct." Sage wisdom traditions in ancient China, visible in Daoist, Confucian, and Mohists schools, emphasize rightness or propriety (yi 義) fitting with worldly order (li 理) and that fitness makes something truly genuine (chen).

Disciplines, Organized

> "The knowledge of the organic whole of sciences must precede one's particular formation in an individual discipline."
> – F.W.J. Schelling, *On University Studies* (1802), First Lecture

In order for an area of study to be properly disciplined, it must encompass all four foundations of explanation set out by philosophy itself, in a manner appropriate to its specific disciplinary mode of inquiry. The Ur-Disciplines each accomplish this precisely because they are philosophically disciplined. Other areas of study that do not attempt to organize their inquiries with this four-fold foundation cannot be disciplines, but they can get subsumed under one or more Ur-Disciplines to receive a disciplinary grounding. For example, Military studies gets subsumed under Political Theory to be fully disciplined.

DISCIPLINE	**CRITERIA OF INTELLIGIBILITY**			
PHIL	**COSMOLOGY**		**ORTHOLOGY**	
	Metaphysics	Epistemology	Axiology	Ethics
	What Is	**How to Know It**	**Why It Matters**	**What's Its End**
PHIL Philosophy	Arche	Principle	Value	Ideal
HIST History	Event	Recording	Elucidation	Cultivation
SOC Social Theory	Sociality	Custom	Solidarity	Harmony
THEO Theology	Supremacy	Sacredness	Spirituality	At-one-ment
POL Political Theory	Domination	Authority	Order	Security
ECON Economics	Property	Ownership	Worth	Wealth
SCI Science	Entity	Experiment	Efficacy	Explanation
MATH Mathematics	Relation	Derivation	Fixity	Proof

Philosophy

Philosophy's supremacy over disciplinarity not only accounts for the dependency of the other disciplines for their four-fold root of intelligibility, but that grounding also explains why each of the disciplines gets philosophical. Speculative theorizing, however distant from rank-and-file practitioners in a field or sub-field, remains ever-present and potent. Advanced theory, and especially paradigm-shifting theorizing, gets philosophical. Revolutionary thinkers of any discipline are rightly classed as philosophers for their philosophical history, philosophical anthropology, philosophical psychology, philosophical theology, philosophical politics, philosophical economics, philosophical cosmology, philosophical mathematics, etc. Precisely because all the disciplines are philosophically grounded (in intelligibility) and philosophically theorized (in paradigms), Philosophy itself always has open channels of communication and interdisciplinary speculation throughout all of them, singly or collectively. Synoptic philosophy in particular, free from partiality towards one discipline or another, is supremely responsible for pursuing the ideal harmonization of all inquiry and knowledge.

History

The word "history" comes from the Greek word "inquiry", exploring the world to observe what has been happening and what has been said about it. Disciplined history sets loose the lures of curiosity, but it has standards for proper investigations to gather reliable knowledge. R. G. Collingwood recounted how history "should be (a) a science, or an answering of questions; (b) concerned with human actions in the past; (c) pursued by interpretation of evidence; and (d) for the sake of human self-knowledge." [R. G. Collingwood, *The Idea of History* (1946), pp. 10-11.]

History contains many subfields specializing in eras and regions, even down to individual careers, but its integral unity cannot be questioned. If History needs a reminder, its neighbor Anthropology can supply it; in the words of anthropologist and historian Eric Wolf:

> [T]he world of humankind constitutes a manifold, a totality of interconnected processes, and inquiries that disassemble this totality into bits and then fail to reassemble it falsify reality. Concepts like "nation," "society," and "culture" name bits and threaten to turn names into things. Only by understanding these names as bundles of relationships, and by placing them back into the field from which they were abstracted, can we hope to avoid misleading inferences and increase our share of understanding. [Eric Wolf, *Europe and the People without History* (2010), p. 3.]

Any would-be historian who falls short of disciplined standards may tell an entertaining tale, but it must be classified with legend, mythology, personal journeying, or creative writing.

Social Theory

Social Theory, resting upon social history, must satisfy history's four disciplined criteria, along with its own directives to provide (a) descriptive ontology, (b) explanatory methodology, (c) symbolic axiology, and (d) social ethics. Two theoretical sociologists make a position statement about these four agendas:

> The social sciences must satisfy four basic imperatives: to describe, to explain, to interpret and to judge. The imperative to empirically describe social reality and social facts as they are (which requires observation), the imperative to explain them causally (Erklären, which requires inductive, deductive or abductive reasoning as well as detection of objective causes, causal powers or generative mechanisms), the imperative to interpret meaning (Verstehen, which requires hermeneutic pre-understanding of the objective cultural and symbolic background, as well as a phenomenological grasp of the actors' subjective reasoning), and the normative imperative to evaluate, judge justify or criticise social facts and social acts (which requires an understanding of how it all makes sense to the researcher, as well as to the actors, and of its ethical and political consequences). [Alain Caillé and Frédéric Vandenberghe, "Position Paper: For a New Classic Sociology" in *For a New Classic Sociology: A Proposition, followed by a Debate* (Routledge 2020), pp. 31-32.]

If a psychologist, sociologist, or anthropologist falls below these standards, disciplined objectivity is lost. Their work must be classified with social history, sympathetic portraiture, journalism, biography, or propaganda.

Humanities, Social sciences, Life sciences, and Natural sciences

As synoptic philosophy observes, the long-standing distinction between the humanities and the sciences bears some validity, ontologically and methodologically. Ontologically, only for the natural and mathematical sciences there is no attention to whether the topic of inquiry is a subject: a thing trying to make itself familiar and understood, by whatever means at its disposal. Inanimate things (germs, galaxies, etc.) lack even that capacity; even animate things can be treated in metrical, formulaic, and mechanistic ways. The rest of the disciplines, whether categorized under "humanities", "human sciences", "social sciences", "life sciences", "computing sciences", "information sciences", and the like, focus their inquiries on things capable of yielding an understanding of themselves. This is no projection, no observer's bias, no anthropomorphism – the things getting studied are inherently and innately signaling, signifying, expressing, communicating (and so on, to their own level of ability) for appreciation and interaction from environing matters (not necessarily any investigator of course, but something else around it). Even down to the level of bacteria, amoeba, and plankton, there is profuse chemical signaling to permit primitive mutual acquaintance and recognition (for benefit, deception, or harm). To be alive is to be understood, somehow. Methodologically, then, that vitality cannot be safely ignored by the fullest explanatory theories. Our understanding of them depends on their strivings to be understood. Biology, zoology, primatology, archaeology, anthropology, sociology, psychology, economic and political theory, and so many more disciplines, are studying the sorts of things with drives for contact and connection.

That four-fold division of labor between humanities, social sciences, life sciences, and natural sciences follows from that preliminary two-fold division. The humanities are studying humans and humanity with regard to how those beings, individually or collectively, attempt to be mutually comprehensible, within the bounds of their own local horizons, or also beyond those bounds to other places and future times. The social sciences accept those modes of communicability and comprehensibility, further investigating how and why group dynamics follow interactions, conditionings, patterns, trends, paths, and careers over time at various scales of human relation and organization. The life sciences include signaling and semiotics where needed in order to understand the functionings, behaviors, and conduct of lifeforms from intracellular up to ecological levels. By contrast, the natural sciences do not deny that such matters are ongoing, while omitting them from evidential and theoretical consideration.

The reason why natural sciences are far more quantitative than qualitative is not because the quantitative is more real or rational, but simply because the qualitative obtains its objective reality where vitality persists, and the natural sciences lack interest in vitality per se. Objectively appreciating quality involves two or more organisms in engagement, not a mechanical device in deployment by multiple users.

Instrumentation enhances observant *sensitivity* and precision; *interpretation* enhances attentive *sensibility* and discrimination. Ascertaining both sorts of reasonable objectivity require communal coordination; the "subjective" only refers to the absence of that communality, not any negation of objectivity. It is impossible for subjective information to contradict objective information, even if their coherence can seem far from evident. Methodology supplies the consistency: *methodos* determines the opportunity for objectivity, not any measure of *logos* or *metron*.

The differences among various sorts of disciplines are most about their methodological commitments. One discipline, such as History, could be subdivided by the extent to which subfields are empirical, experimental, and answerable to scientific inquiry.

Disciplines: How Empirical, Experimental, and Scientific?

Synoptic Philosophy encompasses all degrees of empirical coverage and experimental inquiry. Mathematics deals with the least degree of empirical content. In between, disciplines arrange themselves across nine possible types of engagement with empirical and experimental methods, from the barely empirical to the fully scientific.

Table 1. Nine Discovery Modes of Inquiry

Type of Informants Basis of Evidence	Past Informants for **Historical Narration**	Present Informants for **Dispositive Exposition**	Future Informants for **Scientific Experimentation**
Empirical Evidence	**Mode One** Respects all available sources that are able to pass checks for credible authenticity and mutual consistency.	**Mode Four** Interrogates witnesses and collects evidence in order to discern which hypothesis can acquire the most plausibility.	**Mode Seven** Accumulates and categorizes evidence so that future inquiries can rely on its patterned and predictive organization.
Investigative Evidence	**Mode Two** One, plus: Imposes interpolations and interpretations to reach for maximal coherence and singular chronology.	**Mode Five** Four, plus: Consultations with recognized experts, but their judgments are not necessarily taken as definitive.	**Mode Eight** Two and Seven, plus: Applies controlled methodologies ready for scrutiny and replication by further investigation.
Scientific Evidence	**Mode Three** One and Two, plus: Incorporates expertise from allied scientific fields and omits non-naturalistic events.	**Mode Six** Five, plus: Relies on knowledge from allied scientific fields and ignores non-naturalistic ideas.	**Mode Nine** Six and Eight, plus: Experiments fully control conditions for repeatable consistency with future science.

<u>Humanistic Disciplines</u>

Humanistic disciplines are not sciences, focused instead on understanding and explaining the capacities and results of human thought, agency, and activity. Factual evidence is not dispositive here; what ought to be enjoys preeminence over what happens to be. Exploring the possibilities of human potential is the supremely important sort of exploration, devoted to creative discovery, not empirical discovery. Each discipline is highly selective about the character and salience about "evidence" relevant to its normative paradigms. Exemplars of humanistic disciplines are Philosophy (inclusive of logic and ethics), History, Social Theory, Theology, Political Theory, Economics, and Mathematics. Further humanities disciplines are listed in a previous section.

The Nine Discovery Modes display the predominance of abductive hypothesizing and testing over deductive and inductive methods. Deduction by itself only confirms whatever is already believed, and that is why humanistic disciplines often fail to rise above traditional customs and parochial values. More imagination is necessary. Induction yields an enlarging evidence base to improve our acquaintance with ourselves and nature, but its meanderings only hint at deeper patterns and causes. Still more imagination is needed. Fully methodological inference (abduction) is far more explanatory, by postulating underlying explanations only revealable through experimental trial.

Humanistic disciplines expanding their interests into explanation, prediction, and control, whether dealing with the natural or human realms, venture beyond the Historical and Exposition modes into scientific modes. Relationships among humanities and sciences have varied widely, from cooperation to conflict (Slingerland and Collard 2011; Bouterse and Karstens 2015). Conflict over methodological principles occurs periodically, but there is no need to regard that contest as permanent or

irrevocable. So long as the Nine Discovery Modes are discriminated and applied, jointly humanistic and scientific inquiries can be charted without confusion.

This disciplinary organization is not about the subject-matter of a discipline, but its methodological resources. Selected examples of fields for each of the nine modes are listed to illustrate distinctions found among them:

The Two Historical Modes

Mode One. Herodotus-styled History, Ecclesiastical Theology, Oral Narrative Recording, Journalistic Reporting.

Mode Two. Polybius-style History, Rankean-style History, Intellectual Biography, Political History, Systematic Theology.

Let us pause to explore modes of historical investigation. "History" comes from the Greek word for "inquiry" into actual matters leaving evidence for an inquirer to look into. An honest inquirer must be guided by sources having then-contemporary or near-contemporary perspectives, rather than blind credulity about hearsay and legend. Selectivity is necessary for the organization of empirical history, as the work of Greek historian Herodotus displays, but that is still a low standard to meet. For the investigative historian, such as the Roman historian Polybius, sources are indispensable but not infallible or unchallengeable. There is a methodological expectation of chronology and consistency among candidate facts, with a minimization of partiality and prejudice. The scientific historian (Mode Three below) refines investigations further, heeding the naturalistic worldview and consulting allied fields about past matters, such as literature, antiquarian forensics, paleography, and archaeology.

Humanities disciplines, such as Art Theory and Religious Studies, are no more empirical than their respective praxes, art and religion. That practical focus is their strength. They pointedly ignore science, or take an openly anti-scientific stance, when they sense any imposition of alien empirical standards. So long as Humanities disciplines avoid pretending to be scientific or appealing to "science-y" claims, they at least avoid classification as outright pseudoscience. For example, where "History of Religion" imagines that it can appeal to "established facts" of revelation, miracle, clairvoyance, telepathy, reincarnation, and similarly paranormal events, it descends into undisciplined pseudoscience, even if "almost-sciencey" publications harbor such material. Instead, History of Religion can safely stay within the humanistic bounds of comparative religion and credulous theology, and no accusations of pseudoscience are necessary. The honorable way to "stand up" to science surely cannot be about faking science. Humanities ably study the fullest breadth of *human* experience and endeavor, without making assertions beyond that sphere that science must deny.

An authentic "Science of Religion" discipline has to (a) elevate history of religion to Mode Two, and (b) set aside any unverifiable religious claims violating Mode Three as nonfactual. An advanced stage of Science of Religion would additionally undertake exposition inquiries to investigate contemporary religious phenomena in accord with Stage Four, much like Ethnography. Proceeding on to Mode Seven and Eight must be assigned to narrower experimental inquiries of Psychology of religion and experimental Sociology of religion.

The Two Exposition Modes

Mode Four. Ecclesiastical Inquisition, Crime Investigation, Investigative Journalism, Public Polling, Ethnography.

Mode Five. Canon Jurisprudence, Civil Jurisprudence, Government Inquiry, Foreign Intelligence.

The Five Scientific Modes

Mode Three. Chronological, but hard evidence is left to more scientific fields.
Human Sciences: Scientific History, Antiquities Authentication, Art Authentication.

Mode Six. Investigatory and diagnostic, but experimentation is in the hands of other scientific fields.
Human Sciences: Digital Forensics, Forensic Criminology, Forensic Anthropology, Forensic Authentication, Abnormal Psychology, Psychiatry.

Mode Seven. Exploratory and modestly predictive, but experimentation goes little farther than events naturally or socially provided.
Natural History: Geography, Ecology, Linnean Biology, Botany, Zoology, Anatomy, Animal Behavior.
Human Sciences: Human Physiology, Clinical Psychology, Sociology, Demographics, Cliodynamics, Linguistics, Educational Research, Anthropology, Epidemiology, Political Science, Economics.

Pausing again about Mode Seven, scientific fields among the earth and life sciences in Mode Seven have to be more exploratory and expeditionary than strictly experimental. Fields descended from traditions of natural history such as botany, zoology, geography, geology, and paleontology are obvious illustrations. To discover why a particular thing or event came to be, scientists will plan and execute investigations and explorations, but past and vast natural powers controlled what happened. Research methods in the social sciences, life sciences, and medicine are utilizing databases for computing analysis. These are to be classified among Mode Seven human and historical sciences, because this methodology is only exploratory, sifting data already discovered from Mode Five, Six, Eight, or Nine sciences, rather than being experimental themselves.

Mode Eight. Moderate control over experimental conditions, more for identifying conditions beyond human control.
Historical Sciences: Cosmology, Astronomy, Geology, Earth Sciences, Evolutionary Biology, Paleontology, Paleoarchaeology, Materials Analysis.
Human Sciences: Archaeology, Clinical Medicine, Experimental Psychology, Neuroscience.

Mode Nine. High control over experimental conditions, more for identifying causes amenable to human control.
Physical Sciences: Mechanics and Dynamics, Classical Physics, Quantum Physics, Chemistry, Minerology, Metallurgy, Materials Science.

Mode Eight allows for greater control over experimental design and execution. Archaeology and neuroscience, for example, share the capacity for modest control over experimental inquiry, by meticulously conducting earthen excavations or by painstaking analyses of neural tissue. By contrast, to precisely determine how a kind of thing or event always comes to be, the physical sciences in Mode Nine are able to test hypotheses with rigorous and replicable controlled experiments.

<u>Clinical Sciences</u>

Focusing on just the clinical sciences of Mode Seven and Mode Eight, specific criteria for gathering and evaluating experimental evidence are applied. Here is one example of discriminating levels of empirical cogency, where higher levels surpass correlation and approach causal efficacy.

Question	**Step 1 (Level 1*)**	**Step 2 (Level 2*)**	**Step 3 (Level 3*)**	**Step 4 (Level 4*)**	**Step 5 (Level 5*)**
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or n-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, *n* of-1 trial with	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5*)
	the patient you are raising the question about, or observational study with dramatic effect		surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**		
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or n-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect		Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

Source: Oxford Centre for Evidence-Based Medicine Working Group, "The Oxford 2011 Levels of Evidence" http://www.cebm.net/index.aspx?o=5653

*Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size

**As always, a systematic review is generally better than an individual study

What about Information Science?

The field of Information Science is not a *scientific* discipline of its own. At most, in its generalizable format, it can be a Human Science discipline, or a computational technology. It is not a science *of* information per se. A "science of information" is instead either (a) the field of communication mathematics in which information depends on signal/entropy ratios, or (b) the field of semiotics about informative communications among organisms. "Information Science" should properly be labelled as Information Technology or Informatics, as a subfield of Computing Technology, that designs computing systems for database organization and analysis. The information put into computable formats comes from the other disciplines assembled for their own theoretical and methodological purposes.

The notion of a "general-purpose computer" was achieved with the invention of the fully programmable CPU. There will be no parallel invention of a "general-discipline information system." Disciplines theorize about different ontologies arrayed in distinctive interrelations with divergent significances. Reconciliations among various ontologies must be achieved by those cooperative disciplines themselves. No discipline could surreptitiously impose its own ontology upon other disciplines under the "neutral guise" of information science. And any imposition of "information categories" from computing must be viewed as fallacious folly by all the disciples. Each disciplinary field must take responsibility for assembling databases and designing methodological investigations into their own information sets.

Rivals to Philosophy

The various disciplines, and especially those disciplines in their scientific formats, are always deeply indebted to philosophy for their structure and principles. That overlap offers both sides an opportunity for mutual cooperation, or for one-sided assimilation. Philosophical historiography, philosophical sociology, philosophical anthropology, philosophical psychology, philosophical theology, and political philosophy, if comprehensively undertaken, are central to philosophy in general. However, their allegiance to their own disciplines may tempt them to think about replacing philosophy entirely. Half of philosophy, the orthological side, is the easier target. Philosophy itself, in more rationalistic-metaphysical systems, may encourage the historical-social-cultural disciplines to take responsibility for values and morals. A divorce between ontologies is the prompt result: metaphysics either gets monistic by insisting that values lack reality and objectivity (so other disciplines only study epiphenomena and subjectivity); or metaphysics gets dualistic by allowing two divergent modes of reality. Watching philosophy get entangled in such metaphysical contortions, the other disciplines get inspired to offer their own simplified worldviews. Philosophy, for its part, periodically untangles itself by loosening the strictures of metaphysical rationalism, returning to its synoptic format and harmonizing with the other disciplines.

To accomplish that daring feat of replacing philosophy, a discipline must offer both a cosmology (what is knowably real) and an orthology (what is attainably worthy). Historicism, sociologism, and psychologism are the primary competitors to philosophy. Theology would happily replace philosophy entirely as well, but fulfilling that hope requires so much syncretic and philosophical theology, along with a measure of historicism and sociologism, that theology cannot attain that goal on its own. (Examples are Catholic theology, Vedanta Hinduism, Mahayana Buddhism, and Religious Taoism.) Nevertheless, some theologies try; Protestant fundamentalist "presuppositionalism" and Theravada Buddhist "vipassana" illustrate that attempt. Theology takes an immense risk by relativizing and historicizing philosophy, since historicism and sociologism more easily reduces religion and theology down to temporal and conventional dimensions. As for Political Theory, only the most aggressive political theorists reduce ontology down to political categories of power and order, but any attempt presupposes much historicism and sociologism, which promptly relativizes any political principles and foundations. Philosophy, watching over all of this historicism and relativism, observes how any usurping discipline only relativizes itself in the process, leaving it where it should have remained all along, as subordinate to philosophy's supreme supervision.

Historicism: each historical epoch relies on its own internal modes of understanding, that supply all schemas of intelligibility and communality. Only an immersion into another era's mentality and sensibility permits an authentic insight into its world. The present is no exception, either – no transhistorical standpoint is available, so there is no human or nonhuman "knowledge" or "excellence" for judging any era's correctness. Violating that rule of historical relativity is the fallacy of anachronism: imputing to a different age some thought or ideal that properly belongs to only one's own age. Only historical explanation is reliable: explain why the world the way it is in historical terms of what people then could intelligibly think, and explain how our world came to be how it is, in genealogical terms of ways that people transmitted ideas over time down to the present day. Whether it assumes an idealistic or materialistic ontology, Historicism replaces metaphysics with a cosmological teleology: each successive phase of historical reality (the only reality) necessarily emerges and develops from its past phases (since nothing extra-historical could be responsible instead). Philosophically, historicism introduces an unwanted relativism and determinism into knowledge and worthiness, so historicism (unless coopted into subjectivism or dualism) gets regarded with suspicion and hostility by all but the most historicist philosophers. For their part, philosophically ambitious historiographers expect that telling the tales of history amounts to recounting all reality, so philosophy must be disposable. (Much like the way that scientific cosmologists suppose that philosophy is disposable after the universe's origin and development gets naturalistically explained.) Philosophy complains bitterly about historicism, but its own struggles to justify a-historical criteria for knowledge and worth can make it appear that philosophical thinkers, movements, and systems have never been anything more than prisoners of their own times.

Sociologism: each society sustains its own customs of collective comprehension, that that supply all schemas of intelligibility and communality. In its purest form, social theory advances "social relativism" – one's social world is the entire world, providing everything to think about and how to think about it. To learn and speak about reality and to explore the limits of one's social reality are the exact same enterprise. Ambitious sociology therefore claims to define and deploy all meaningful concepts, encompassing ontology and morality. (Not even science is immune from this sociologism, where theories are only credible through negotiations among social groupings; to speak of 'nature' is hence otiose.) In a second form, sociologism usually looks like anthropology's "Cultural Relativism" instead, since anthropology takes a comparative interest in the diversity of human cultures. Like Historicism's relativism, socio-cultural relativism denies that there is any good philosophical point to asking which culture has a more or less adequate worldview. Even if cosmological relativism may be acceptable,

relativism about ethics feels the least tolerable, especially in this modern age of mass atrocities. Surrendering hopes for moral progress abandons humanity to an unphilosophical nihilism. Strict relativism strongly denies any teleological trend to cultural change: there is no such thing as "progress" between cultures, or for humanity in general, since there is no transcultural standard for any legitimate comparison. All the same, to forestall nihilism, Historicism can encourage the notion of historical progress, which strict Cultural Relativism must dispute and reject. Cultural Relativism prevents nihilism by pointing to sufficient meanings in life within one's cultural horizon. However, if social relativism does get blended with historical progress, then the result promotes "cultural progressivism": today's superior cultures developed rightly from precursors and now justly develop any inferior culture upwards. This progressivism may be grounded retrospectively (such as in Confucian or Catholic longings for a past righteous age), idealistically (in Hegelianism or Human Rights regimes), or materialistically (in Capitalism or Marxism for example), but it always presumes some sort of idealized view of humanity and human nature that is presently exemplified in some "best" culture on the planet today. As Historicism would expect, intellectuals usually prefer their own contemporary society. Viewing one's own heritage/culture as the culmination of human destiny is ethnocentric. Ethics often surrenders to this ethnocentrism, which often takes the guise of racism, religious dogmatism, imperialism, and other prejudices. Even the admirable systems of Virtue Ethics, Deontology, and Utilitarianism have been implicated in ethnocentrism. Philosophy should never support ethnocentrism (cosmopolitanism is preferable) or cultural progressivism (unless progress is driven by reason). However, the broad philosophical goal of upholding absolute principles of truth and worth do not appear achievable from the more limited standpoints of History, Sociology, or Anthropology.

Psychologism: Even if all psychology is basically social psychology (no individual invents all their own ideas and language), the study of individual subjects reveals the only mentality that could ever be used to know and judge anything. Personal judgment – about what shall be taken for real and true, and what should be done or not done – is responsible for belief, and belief is responsible for action and custom, and hence all the rest of appreciable reality. The mind in some sense not only creates reality, it must be the most real thing in reality. Does science say otherwise? Let science show where scientists directly confront reality without their observations (the senses) or their theories (the imagination). Does philosophy say otherwise? Let philosophy show where the laws of logic exist besides the cognitive operations of actual thinking. Some philosophical systems can get comfortable with a robust psychologism so long as it dominates the orthological side of values and morals. Reducing values and morals down to psychological/neurological habits and intuitions offers a certain convenience to narrow naturalisms, like scientific materialism. Dualistic philosophies, for their part, happily let psychologism explain the subjective world, so long as the objective world stays in the hands of metaphysics. If psychologism dares to inflate to cosmic levels, it becomes metaphysical idealism: all reality consists of ultimate mentality (everything consists of psychical moments, or minds, or forms of thought, or one absolute mind, etc.).

Theologism: If the term "theologism" had currency, it would consist of the "Massive Myth" fallacy: the depiction of any comprehensive paradigm concerning global politics, human history, natural science, or cosmic evolution as a grand mythopoetic structure. On that depiction, even positivistic, realistic, and pragmatic paradigms are imagining and projecting their relevance for humans. This fallacy unfairly lets theology outrank the rest of the disciplines. Theology can construe paradigms of other disciplines as equivalent (or competitive) with the purview of theological myth, to permit theology to avoid academic refutation or replacement. Allied with academic idealism, this fallacy assigns to theology the sole capacity to comprehend and evaluate all knowledge and reality – the grand delusion of Medieval theology. However, without speculative philosophy's assistance, theology could never converge on a single comprehensive worldview because the mythologies of the world's religions great and small are not crafted to cohere together. Theology has no final myth, so its pretention to challenge other paradigms and disciplines collapses back down to due proportions. Paradigms must be assessed by disciplined methodological standards, not just by theology.

Philosophy has few options for dealing with Historicism, Sociologism, Psychologism, and Theologism. The obvious strategy is prevent their eruption in the first place. Abstaining from rationalistic metaphysics, coordinating cosmology with orthology, and incorporating all the disciplines along the way, removes any necessity for other disciplines to replace philosophy and its unique academic responsibilities. When philosophy fails to be fully synoptic and syncretic, it must resort to negotiating for its place among Historicism, Sociologism, Psychologism, and Theologism, but only bad compromises lie down that path.

DISCIPLINES

All eight Ur-disciplines are structured according to the philosophical four-fold root of sufficient intelligibility: What Is, How to Know it, Why it matters, and What's its end. The first two are covered by Cosmology; the second two are covered by Orthology.

PHIL	COSMOLOGY		ORTHOLOGY	
	Metaphysics	Epistemology	Axiology	Ethics
	What Is	How to Know It	Why It Matters	What's Its End

Each area has (a) a Core Concern, (b) a <method> approaching that concern, and (c) a [criterion] used by that method.

PHIL	Arche	Principle	Value	Ideal
Philosophy	<theoria>	<reason>	<commensurability>	<dignity>
	[ontic priority]	[consistency]	[intrinsic worth]	[inviolability]

Philosophy gained independence from venerable but variable ideas about the world embedded in epic poetry, tragic drama, and religious cosmogeny. Philosophy seeks a consistent and coherent worldview for life, ordering particularity under universality and valuing ideality. Temporality and locality get rendered superficial or subsidiary, so the discipline of history arises to investigate past origins and events in their individuality. History assembles accounts of the course of worldly events and human deeds, and composes narratives about human affairs to recount their impact and import.

HIST	Event	Recording	Elucidation	Cultivation
History	<memory>	<authenticity>	<narration>	<empathy>
	[individuality]	[corroboration]	[comprehensiveness]	[humaneness]

A history seeks general credibility, and its narrations gain plausibility by fitting with common sense understandings about people individually and collectively. Interpretations of meanings of events and elucidations of lessons for life have to make "social sense" and, in the long run, proper cultivation requires sound social history. To the extent that history reflects on its principles and values, it engages in philosophy of history. To the extent that history has to think carefully about humans and human groups going through their histories together, the discipline of sociology emerges.

SOC	Sociality	Custom	Solidarity	Harmony
Social	<membership>	<cooperation>	<loyalty>	<inclusivity>
Theory	[generality]	[reciprocity]	[cohesiveness]	[justice]

A society's harmonization depends on shared habits, practices, norms, and ideals earning wide loyalty. Deeper reflections upon them leads to philosophical anthropology or philosophical psychology. Social Theory can chart diverse ideals across societies, and discern resemblances and genealogies among them. Social Theory and social history cannot fully explain the careers or survivals of social groups or nations without considering the efficacy to a people's own motivating ideals for maintaining or abandoning inner solidarity. Devout fidelity to supreme ideals regulating social relations is visible to universal social history, but the propagation of ideals belongs to cultural religion. A religion's own effort to comprehend its history and social theory and explain its superior ideals becomes theology.

THEO	Supremacy	Sacredness	Spirituality	At-one-ment
Theology	<transcendence>	<awe>	<discipline>	<reverence>
	[ultimacy]	[sublimity]	[fidelity]	[compassion]

Theological religions, unlike older ritual religions, develop greater organization and power structure. They are also prepared for broad social relevance and political influence. Theology must craft a theory of legitimate religious authority, and a theory of effective political influence. Typical theological religions take opportunities to indirectly or directly engage with civil politics, implementing a theory of political theology or open theocracy. Social theory also specializes in political studies eventually. The study of legitimate and beneficent authority becomes political theory.

POL	Domination	Authority	Order	Security
Political	<prevalence>	<enforcement>	<regulation>	<stability>
Theory	[autonomy]	[pacification]	[legitimacy]	[civility]

Both social theory and political theory include attention to the workings of wealth and class. When enough social metrics and analyzable trends are accessible, theoretical approaches to aggregate economic activity emerge, to replace customary views of wealth and its traditional functions. The ability of governments to manipulate currencies, monetary supply, and markets for civic ends calls for a joint subdiscipline of Political economy. An independent Economics advises about efficient systems to increase prosperity, and predicts consequences from legal and policy interventions in an economy.

ECON	Property	Ownership	Worth	Wealth
Economics	<scarcity>	<acquisition>	<appraisal>	<accumulation>
	[particularity]	[accessibility]	[exchange]	[prosperity]

History and sociology promote record preservation and information collection, but their interpretative accounts replete with agency do not encourage explanations using lawlike regularities. Theology and Political Theory account for worldly change with human freedom. Macroeconomics seeks formulaic causal explanations, but it lacks strict experimental controls needed for confirming speculative theories. Celestial and classical mechanics, optics, hydrodynamics, and chemistry became fully experimental sciences, with biological and medical fields soon following.

SCI (NAT)	Material	Mech. Causality	Production	Control
Natural	<modularity>	<lawfulness>	<predictable>	<replicability>
Sciences	[universality]	[essentiality]	[force]	[stasis]

Natural sciences seek forces common to most or all natural processes, at every scale throughout the cosmos. Life sciences study complex chemistries and organic activities occurring near stars. At those scales and energies, autopoiesis, self-maintenance, and purposiveness are not explanatorily reducible to physical forces, even if physicality is universal. Lifeforms display their unifying integrability and resilience by participating in systemic interdependencies. The life sciences arose from proto-disciplines about healing arts, agriculture, and natural history.

SCI (LIFE)	Organic	Chem. Affinity	Growth	Agency
Life	<integrity>	<habit-taking>	<purposive>	<adaptability>
Sciences	[unity]	[contextuality]	[function]	[allostasis]

Science relies on assessing matters comparatively against something taken for a constant. The quantitative, whether measured through spatiality or temporality, lends itself to abstract conceptions of structure and formula. Simple intuitions, where the entire conception of an abstraction is provided in its unique definition, then permit step-wise implications to deducible conclusions. The provability of theorems and calculability of formulas allows cognition to achieve rational certainties, at least as far as conceivabilities and inconceivabilities permit the mind to go.

MATH	Relation	Derivation	Fixity	Certainty
Mathematics	<conception>	<deduction>	<constancy>	<provability>
	[clarity]	[implication]	[non-contradiction]	[necessity]

Disciplinary Conflicts

An academic discipline, whether an entire Ur-discipline or one its sub-fields, can get into academic conflicts with another discipline. Typical disputes among disciplines arise philosophically, over metaphysical, epistemic, axiological, or ethical controversies. Metaphysically, a discipline gets warned that its competence to know anything halts at some sort of ontological boundary or barrier, past which its theories and categories fail to apply to whatever is real on the other side, with other praxis or discipline already claiming to know that domain of reality. Epistemically, a discipline claims superior access to a particular domain of reality by inflating its privileged applicability over the rest of the disciplines. Axiologically, one discipline asserts its devout respect for special values inherent to some domain, permitting authentic knowledge of that domain unequaled by other disciplines lacking that built-in appreciation for those values. Ethically, one discipline praises its ethical standards guiding its inquiries and knowledge while condemning other disciplines for neglecting or violating moral norms.

Disciplines: Metaphysical Disputes

A metaphysical dispute between disciplines rarely reaches any reasonable adjudication unless philosophy plays a constructive role. Disciplines are well-designed for pursuing inquiries on their own ontological and categorical terms but ill-prepared for appreciating categories and ontologies of other disciplines. Accusatory stalemates abound. Philosophy itself can impose a metaphysical map, assigning domains of existence to this or that discipline while reserving ultimate reality for its own categorical charting. This metaphysical zoning only prevails if philosophy can uphold its rationalistic justifications and exclusively absolute knowledge, knowledge that no other disciple could confirm or care about.

Metaphysical Rationalism cannot be anything but a philosophical last resort, only worth the effort during an era when the other disciplines stand in complete opposition and ontological confusion reigns. The other "last resort," Universal Skepticism, doubts all claims to any knowledge in utter resignation to ontological confusion. Since extreme skepticism amounts to abandonment of academic philosophy itself (degenerating into some sort of cynical wisdom movement), adjudicating disciplinary conflicts occupies the efforts of most philosophical systems.

Philosophy's history is replete with rise and fall of metaphysical systems, one after another, without any convergence or consensus ever in sight. Asking reality to put a check on metaphysical speculation by supplying concrete existence and evidence places a responsibility on philosophy to consult and collaborate with empirical disciplines. Metaphysical disputes do arise among disciplines without philosophy's instigation, inviting philosophical adjudications more constructive than commanding.

Disciplines: Epistemic Disputes

To be constructive, philosophy inspects the epistemic grounds underlying each discipline's self-confidence. Before one discipline is awarded priority over another, its rationale must be critically examined. No discipline claims "omniscient knowledge" about all reality, but disciplines often claim "monoverity" with exclusive knowledge over a domain of existence. Specific modes of monoverity are also rampant.

> Monoverity: Discipline D's knowledge about domain P always overrides and overrules any other discipline's theories about P.
>
> Monoscopy: If discipline D cannot discern any evidence about domain P, no other discipline can know about P either.
>
> Monocurrency: If discipline D does not warrant a theory, then it cannot be credible despite other disciplinary support for it.
>
> Monoimmunity: A theory of discipline D cannot be disconfirmed by another discipline's inability to find evidence for it.
>
> Monofacticity: Discipline D's theories cannot be put in doubt by any amount of evidence from other disciplines, but D's own evidence easily disproves another discipline's theory.

Monocapacity: If another discipline's view of domain P contravenes discipline D's theories for P, that discipline is too crude to fully understand P: that other discipline fails P by being "simplistic," "reductionist," "anachronistic," and so on.

Where a discipline proclaims its monoscience over a domain, and conveniently defines that domain in terms exclusive to its own paradigm, deflating such exaggerated pretensions is no simple matter. Philosophy should not arbitrarily impose metaphysics and its thinly disguised partiality favoring one discipline over another or displacing both of them. For example, when metaphysics simply borrows its methodology from one particular discipline (perhaps theology, or mathematics, or a science) there is no fair recourse for impartiality. Philosophy should instead suggest innovative compromises that diminish monoscience: theories can be blended for consistency, or rendered complementary, or replaced by a jointly satisfactory paradigm.

Disciplines too stubborn and possessive over their domain are tempted to erect high epistemic walls protecting their knowledge. Imitating a strategy from metaphysics, an entirely conceptual argument can be artificially constructed to insulate a discipline from any empirical competition. This strategy begins by contrasting empiricism with conceptualism.

Empiricism (roughly) expects that the referent of a concept is determined by the sort of experiential episode occasioning its conception. The experiential origins of a concept sets the bounds of its reference. Put another way, the concept *means* no more than the original sort of experience imbuing that concept with its meaning. For example, the reason why the concept "cloud" refers to clouds (rather than anything else) is because people experiencing clouds formed that concept "cloud" to be adequate to observations of clouds. Empiricism yields poor support for disciplinary possessiveness over a domain, since empiricism cannot defend any discipline's monoscopy. All experiential observation, for empiricism, enjoys a measure of credibility as data and evidence unless good reasons forbid, so disciplines meeting minimal standards for objective and replicable observation can legitimately inquire into any domain.

Conceptualism stands contrary to empiricism, and yields a more potent argument for epistemic insulation:

Premise 1. Conceptualism. "The referent of a concept is determined by the mental judgment applying that concept to experience so that those sorts of experiences conform to the concept."

This first premise states how the mental origins of a concept sets the bounds of its reference. The concept *means* no more than the original conception giving experience its particular meaning. The actual reason why the concept "cloud" refers just to clouds is because people mentally applying "cloud" to their experiences are thus able to experience clouds (and they wouldn't observe clouds without possessing that concept). Concepts are mentally and epistemically prior to experiences conforming to them, just as objects shaped by a pre-set mold must conform to that shape. Since concepts are mentally and epistemically prior to observations, the mental origin of a concept sets the entire bounds of its possible reference.

[Philosophically, neither extremes of empiricism nor conceptualism could be entirely correct about the human capacity for experiential judgment. Both views rely on a common suspicious assumption, that "the meaning of an idea is entirely bounded by, and bonded to, its original source." More sophisticated philosophies about thoughtful judgment are available – but dogmatic disciplines ignore them.]

Premise 2. Idealism. If conceptualism is correct, a concept cannot have any referential meaning beyond that mind's activity.

In short, mentality determines reality. To imagine a concept referring to its object while floating freely beyond any mind thinking of that concept is utterly illogical fantasy. To imagine objects existing beyond any mind possibly able to cognize it is an empty exercise in self-contradictory futility. Neither objects nor their concepts wander reality by themselves detached from minds thinking them.

Premise 3. Corollary of 2 for disciplines. When a discipline originates a concept for use in its categorizing and theorizing, that conceptual origin within the discipline sets the entire bounds of its possible reference.

Again, concepts do not wander reality by themselves detached from minds thinking them. Disciplined minds are no exception. A discipline's concepts only refer to anything because that discipline is applying it.

Premise 4. Corollary from 3. A term 'T' used by a discipline lacks any reference before or beyond that discipline's own thinking and theorizing with T.

A discipline's theoretical schema or framework utilizing concept C sets the bounds where C has any meaningful reference. Premise 3 delimits the reference of a disciplinary term to the extent of that discipline itself and no farther.

Premise 5. Academic Idealism. Disciplinary categorizing and theorizing establish the referents of its concepts. Those "objects" cannot be said to exist outside its disciplinary source, and they lack reality where that disciplinary activity is absent.

Premise 6. Disciplinary Creationism. Whatever entities that a discipline has theorized about, those entities only come into exist within and for that discipline. Asserting their existence outside of that disciplinary invention is unfounded and irrational.

Idealism

> "I began by thinking of reality as the literal product of the mind's transformation of whatever lies outside itself."
> – Steven Fuller, "Symmetry as a Guide to Post-truth Times, a response to Lynch," 2021.

With Disciplinary Creationism (seemingly) established, high walls can surround a discipline's domain to insulate it from potential contradiction. Let Discipline D theorize about matters within its domain, a domain whose constituents are defined precisely by D's own theories. So far, this domain possessiveness matches Disciplinary Creationism. No other discipline can know better about that domain and contradict its proper discipline. If a rival discipline attempts to offer a discrepant theory, then that theory either agrees conceptually with discipline D by referring to matters within that domain, or else that discrepant theory completely fails to refer to anything within that domain in the first place. For example, if a rival discipline D2 announces that X exists within domain D, then D1 simply points out that that domain has no place for something non-existent like X, and D2 should stick to talking about its own domain. Monoverity, along with monoscopy and the other epistemic privileges, accrue to this disciplinary creationism and isolationism.

Cultural praxes unwilling to have their knowledge contravened or replaced by academic disciplines can also avail themselves of conceptualism and isolationism. Praxes most indebted to traditional histories find particular assistance, such as customary legend, ritual, religion, and politics. Conceptualism pairs well with cultural traditions due to their shared inspiration: historicity *is* authenticity. The Source is Legitimacy. Politics is replete with theories of government basing a ruler's authority on his special acquisition of power, and a government's legitimacy on the particular manner of its founding. Another primary example is religion, at least those religions basing their authenticity on sources and origins.

Let a religion claim that its authenticity is grounded upon its special origin, an origin best known by that religion since it was obviously present in existence from its created beginnings. Then suppose that an academic discipline later comes along to theorize about that religion's origin. According to Disciplinary Creationism, whatever conceptualization of the religion's origin gets intellectually invented, that invented origin is no real rival to the religion's own origination account. First, as an invented account, its validity cannot extend any farther that the disciplinary activity promoting it. For example, when a discipline such as intellectual history comes along after 1700 to construct what it thinks the "real" historical Jesus said and did, that invented Jesus is the fictional figure, not the original Jesus commemorated by his own religion of Christianity. Second, unless a later discipline agrees with Christianity about Jesus in the first place, its conceptualization for "Jesus" cannot refer to Christianity's Jesus at all. In summary, it is impossible for an academic discipline to contradict Christianity's account of its origins with Jesus. Those disciplines (a) were not around to get evidence of the actual Jesus, and (b) any later notions against Jesus cannot count as actual evidence. Disciplines rivalling Christianity's own accounts of its long-ago origins completely fail to refer to its Jesus at all, and hence they must fail to offer an explanatory account about Christianity. Critical disciplines simply construct a modern fictional Jesus for a pseudo-Christianity that no religious person believes.

In general, academic idealism insulates religion from disciplinary scrutiny and skepticism. A discipline offering to critique a religion must EITHER largely concur with its theology and participate in theological discussions on that ground, OR a discipline has to deeply misunderstand that religion. Complicity, or Caricature. Transgressing inherent epistemic limitations causes a discipline to commit the follies of "ahistoricism" and "anachronism" by conceiving a religion in terms not really applicable to

its own past, thus straying into “essentializing” a religion into caricature. This dilemma of “complicity or caricature” is inescapable once academic idealism is granted.

Furthermore, combining Disciplinary Creationism with Idealism classifies any discipline as the creature of its culture or civilization, thereby accusing History, Religious Studies, Anthropology (and so on) as just a “European” and “Western” creature contorting “religion” into a form that the European West would like to see. Hence the accusation that modern historical and religious studies secularizes all religion before studying it. Authentic religion is first rendered invisible: e.g. “miracles are unreal” so “no religious miracles happen” and “academics only study religion stripped of miracles”.

The individualistic version of Disciplinary Creationism is “Founder Creationism”: a particular theory proposed by a scholar can never be anything other than the creation and creature of that individual thinker, and forever bears all of the limitations from that thinker’s thoughts. For example, an opponent of the “Axial Age” theory about early religions simply points out that the notion of an Axial Age started with Karl Jasper’s musings on intellectual history in one of his philosophical books. Therefore, the accusation goes, that there can be nothing to this “Axial Age” idea than what Jaspers personally put into it from its origination. 100 years later, any contemporary scholar speaking of an “Axial Age” must necessarily and exclusively be talking about precisely what Jaspers meant by that idea long ago. Any fault with his original idea that has been later exposed only refutes and destroys it, since nothing can improve his theory with upgrades, because “the Axial Age” theory can still only mean exactly what Jaspers meant by the term when he invented it. Indeed, as this line of criticism goes further, “the Axial Age” still means today just what a European academic could have meant by it back then, replete with the prejudices and biases of his whole era. The very notion of an ”Axial Age” is like an insect trapped in amber back in the time of its academic birth, never able to grow and fly free thereafter.

The view of “Founder Creationism” is anti-educational, anti-academic, and unscientific. Education presumes opportunities for empirical learning from new information, errors, misconceptions, and mistakes. Learning means the modification of ideas, viewpoints, proposals, propositions, hypotheses, and theories. Tenacity of conviction is the opposite of education. Academics requires collegial collaboration on ideas and theories that no individual “owns” or ponders alone. Developing ideas, views, hypotheses, and theories are collective intellectual matters, no isolated thoughts of lone minds. (Again, that fallacy of originator “creationism” must be avoided.) The origins of an idea is far less important in academic research than career and destiny: how does a hypothesis get developed by a field into a better-justified and more informative theory? Science in its generic sense (not just laboratory science) asks investigations to answer to freshly-gathered facts that either indict a false hypothesis OR indicate modifications for greater empirical adequacy. Improving a theory is no fallacy or folly, despite simplistic mantras about science harbored by non-science disciplines. Every robust theory in any textbook from ancient history to astrophysics developed from slim hypotheses that needed nutrition from a wider field of facts. Looking again at Jasper’s “Axial Age” hypothesis, for over one hundred years this intriguing idea has provoked a significant of investigative research across many disciplines from ethics and religion to history, sociology, and political theory. Updated versions have been proposed, debated, and compared with additional research. Poor versions have been getting weeded out; better versions are surviving and still getting discussed. Only retrograde disciplinary fringes still rashly denounce the “Axial Age” as Jasper’s own delusion or modernism’s mirage.

Even if academic creationism is defused and sidestepped, trapping an entire discipline into an impossible dilemma is not difficult. Consider this line of reasoning, by granting three propositions.

A. No discipline could accurately discern the authentic origins of a religious tradition by itself, due to the limitations set by its own imposed concepts and categories.

B. A discipline should instead respect a religious tradition’s own account of its original authenticity, or else its disciplinary categories only falsify its view of that religion.

C. In order to even academically speak of a religion, a discipline must conceive that religion partly or wholly in terms set by its own concepts and categories.

The dialectical trap is now set: in order to avoid doing A, a discipline has to attempt B, but that attempt must fulfill C, which compels that discipline to commit A. No matter how a discipline tries to deal with a religion, it must fail to independently investigate or really know that religion. No religion needs to be intimidated by academic disciplines. Since a religion is the sort of tradition consisting of its participants’ own understandings, contrary notions that get externally superimposed cannot

realistically apply. Any discipline that blindly ignores its epistemic limitations blunders into contorting a religion to fit its own constructed mentality, or reducing a religion down to its pre-fabricated worldview. Either way, this argument concludes, no discipline can independently investigate or critique a religion.

One academic discipline, theology, does examine and evaluate religion, but each religion develops its own theology, so theological critique stays internal and sympathetic. Theology considers input from other disciplines but theology never allows itself to get overruled. Studies of comparative mythology are sensitive to encroachments from other disciplines, especially by historians theorizing about the beginnings to this or that religion. History is only doing what it does best, seeking chronological order, finding origins, tracking sequential developments, and so on, but mythology perceives a drive to establish authenticity as well, since religions themselves equate historicity with authenticity. Whenever a history for a religion gets proposed, mythologists accuse those proposals of "anachronism," "reductionism," "modernization," "scientification," and worse labels besides, as comparative mythology grows suspicious about a hidden academic agenda to prejudicially domesticate, subjugate, or rank religions. Another prominent example of theological suspicion towards disciplinary theorizing about religion is provided by current efforts from anthropology, sociology, and cognitive science to explain the emergence of religion itself within Stone Age cultures before H. Sapiens left Africa. No theology would permit true religiosity to be generated from such mundane matters as evolutionary drives, utilitarian fitnesses, and cognitive biases.

Theology cannot assist philosophy much with maintaining disciplinary cohesiveness here. Although theological schools and movements do debate religious matters, a general consensus is sustained about core doctrinal matters. Theologians straying too far from that consensus may inspire heresies and schisms, and any theologian departing from one religion either adopts a different religion or joins the company of a non-religious discipline.

Religion is hardly the only enterprise resistant to disciplinary investigation. Science has become notoriously resistant to inspections and evaluations from other disciplines. Does sociology of science imagine that theories acquire popularity among scientists due to mere networking, resource gathering, and power seeking? No, replies science: theories gain credibility with scientific fields in the long run only according to their scientific merits acquired from surpassing standards set by strictly scientific methodologies. Science aims at realistic truth, not earthly advantage. Therefore, according to science, either other disciplines participate in the internal critique of improving scientific methodology, or else those other disciplines are simply misunderstanding and caricaturing how science works. The abiding risk for such science protectionism, of course, is a dogmatic retreat back to monoverity isolation aloof from any interdisciplinary inspection, labelled as "Scientism." Scientism not only declares that science alone best knows all reality, but also that scientific methodology enjoys an epistemic purity not to be tainted by input from history of science, sociology of science, economics of science (etc.), or critique from area studies such as feminism, cultural studies, legal studies, and so on.

It can also be pointed out that several disciplined praxes – among them performing and plastic arts, educational pedagogy, psychological counseling, literary theory, sports performance, and the like – mount their own resistance to intercessions and evaluations from academic disciplines. Musical theory ignores acoustics outside of the recording studio; artists disdain studies of the art world; literary theory and cultural studies can cooperate only over genres of past eras; education won't get reduced to psychological experiments about testing; coaching will always be far more than endurance skills training. Recognizing distinctions between Cultural Praxes, Humanities Disciplines, and Human Sciences offers a philosophical overview that respects their division of labor as well as their fruitful collaborations.

Overall, it is philosophy's responsibility to divert any discipline's drift into Idealism and Monoverity while enforcing collaborations and fostering converges, without imposing Metaphysical Rationalism in the process. Varieties of empirical realism, liberal naturalism, pragmatism, and phenomenology offer viable alternatives. The philosophical work is never done, however. Despite philosophy's best efforts with epistemic methodology dealing with reality and truth, two other sorts of disciplines disputes perpetually flare up over values and ethics.

<u>Disciplines: Axiological Disputes</u>

The typical accusations sound repetitive:

"Theology ... always theologizes..." "History ... always historicizes..." "Sociology ... always sociologizes..."
"Psychology ... always psychologizes..." "Politics ... always politicizes..." "Economics ... always commercializes..."
"Science ... always materializes..."

Each discipline has at hand a list of convenient accusations to target other disciplines threatening their own domain. Philosophy has shamelessly promulgated them for centuries, to protect philosophical views on the mind, free will, reason, morality, justice, and further idealizations. Other disciplines did not fail to imitate that tactic. Turning it on philosophy itself, they may say, "Philosophy ... always rationalizes..." or "Philosophy... deals only in abstractions..."

No discipline can be faulted for applying their particular principles, methods, and categories permitting their disciplinary knowledge. By encroaching onto another disciplinary domain, however, a discipline not only appears to misunderstand that other domain's ontology, but also misapprehends what is valuable in that domain. When neuroscience credited the molecule oxytocin with making our brains feel love, brain science appeared to overstep onto practically sacred ground. Love got recast into mere neurochemical addiction. Transforming something into something else, by letting a newer discipline re-conceive matters within a domain, lets something valuable get lost in the process. Neuropsychology cannot confirm idealized free will or logical inference actually happening anywhere in the brain, either: real choices are largely pre-determined and actual thinking is somewhat biased and errant.

Ironically, as philosophy knows well, each one of the other disciplines originated from partitioning off part of philosophy's grand domain of all reality for bounded disciplinary study, transforming knowledge and values along the way. Much of philosophy still complains bitterly about losing its dominion over so much of life. In any case, disciplines to this day depict their knowledge domains as value domains as well. Does ecology treat every species as equally valuable from its exalted standpoint over the whole earth? Anthropology cannot agree that an insect is as valuable as a human being. When anthropology assigns every equal value to every society as a cultural exemplar, political theory must instead rank societies from best to worst according to respect for rights or democracy. While political theory praises all secular democracies, theology castigates their descent into immoral impiety. Theologies elevating monotheism over polytheism and paganism attracts sociology's judgment that monotheism and religious violence correlate heavily. And the circle goes round and round.... Whatever gets idealized by one discipline in its domain, another discipline's perspective tears down statues and smashes idols.

Philosophy's own area of axiology is assigned the inquiry into the relative ranking of values and the quest for supreme values. Axiology has the poorest reputation among all philosophical areas. Rationalizing the supremacy of a singular supreme Good is the easy part; describing how that abstract Good gets exemplified (or not) by concrete mundane realities. The cosmological Problem of Evil is easier to resolve than its counterpart Problem of Good: where is the convincing evidence that life overall is securely trending towards the Better instead of the Worse? When axiology turns to the other disciplines for input, their disarray and disagreement over where values securely abide lends little confidence for axiological harmonization or ranking.

Disciplines: Ethical Disputes

Interdisciplinary matters degenerate even more when moral norms get invoked. A disciplinary research program that designs and conducts investigations or experiments that treat persons with less than full moral dignity will no longer be academically tolerated. Medicine and psychology are permitted to undertake human subject research under stringent protocols. Sociological, psychological, political, and economic research cannot conduct fully-controlled experiments involving human groups, not only because required resources are impractical (try comparing a town applying only socialism with another town only using capitalism for a decade) but mainly because such levels of human manipulation and degradation won't be ethical. That is why those disciplines at most attain to "human sciences" rather than fields of natural or life science.

Philosophy takes no interest in lowering ethical standards for disciplinary research. However, a separate path towards ethical disputes among disciplines can occasionally arise. A discipline that regards its research programs as ethically important will not welcome obstruction from another discipline. After the 1960s, environmental science has gotten bound up together with environmentalism as a moral and political agenda. If a research program from environmental science or economics happens to produce confirmed results contrary to urgent policy programming from environmentalism (by diminishing the significance of certain species, or calculating how recycling wastes more energy, say), environmentalists would respond with moral outrage and dismissal. Sociology of science has been trying to discredit scientific knowledge with cultural relativism and disciplinary creationism since the 1960s, but that field is now faulted for energizing psuedo-science, climate skepticism, and anti-environmental politics.

Sociology posing as ethics cannot rise above entanglements with pieties, internal or external. Sympathies with the people or the group under study renders theorizing answerable to values. Explaining what people are doing, or what has happened to them, mustn't be demeaning or demoralizing on the one hand, but it mustn't condone indignities or depravities on the other hand. Sentimentalities and vulnerabilities are well-known to anthropology. Sociological research upon one's own society risks offending against local pieties and doxa deemed 'normal', 'moral', or 'sacred'. Sociological empathies with the people's own ways risks erecting local norms into ethical principles. Sociology appreciates its subject and subjects well enough, enough to wisely refrain from mistaking habits for sanctities. Empirical objectivity need not be inconsistent with good sense or morals; subjecting good reason and theory to dogma may prevent knowledge from aiding those needing it most.

Philosophy naturally sympathizes with social progressives of every century understanding the human world in order to change it humanely. Moral neutrality may not be necessary for individual sociologists motivated to sympathetically understanding other people. As a discipline, sociology should aim at overall ethical neutrality, a neutrality relieving it from political responsibility. Like anthropology and psychology, sociology by itself cannot be a definitive repository of principled ethics for humanity. Social Theory, encompassing all three disciplines, does chart and compare the moral ways followed by societies, but that exposition at most suggests a thin moral consensus. No robust ethics may be validly inferred. Philosophical ethics cannot be satisfactorily replaced by sociology (or politics). Neither masses nor might make ideal right.

Philosophy's own area of Ethics does offer robust theories for moral norms and high ideals. However, human and animal research aside, can ethics be properly applied to independent and well-established academic disciplines only pursuing knowledge and truth as far as their disciplinary methodologies can take them? Utilitarianism, for example, would happily evaluate the relative instrumental service of each discipline to the overall welfare of humanity. Astrophysics, military tech, and zoology would get defunded while medical and computing research would get 30% of annual national budgets. Not all knowledge is created ethical: the impartial pursuit of knowledge for its own sake across thousands of subfields would be banished. And deontology fares no better – "Can this or that research program be pursued everywhere as universal law?"

Paralysis on the part of ethics to adjudicate among moral priorities to various disciplines and fields opens the door for theology and political theory. Theology eagerly judges disciplines for pious submission to divine authority; politics happily funds research that serves the perceived needs of the people. The ethical comparison and evaluation of disciplinary research programs (especially in light of always-scarce funding resources) remains an urgent philosophical agenda.

Disciplines Conflicting with Philosophy

Philosophy applies its own areas – metaphysics, epistemology, axiology, ethics – to adjudicate among conflicting disciplines and impose some ontological order among so many domains. Because each discipline's mission was imbued with the four modes of philosophical intelligibility – something real, knowing it, its value, and its end – there are four inherent bonds for philosophy itself to understand them and their proper domains.

Each discipline, for its own part, has resources for rising to a philosophical level itself as well, by focusing on its modes of intelligibility to fully comprehend the scope and power. Philosophical history, philosophical sociology, philosophical theology, philosophical politics, philosophical economics, philosophical science, and philosophical mathematics are all equally capable of arising from their respective disciplines as from philosophy itself; indeed, these seven enterprises occupy the seven overlaps among them all.

It has not gone unnoticed by any of the seven Ur-disciplines besides philosophy that they can get quite philosophical as needed to keep themselves oriented and coherent. Each discipline takes responsibility for managing internal competitions among rival paradigms and theoretical revolutions that invigorate its disciplinary course and discourse over time. Although philosophy observes paradigm shifts with intense interest (as philosophy of history, philosophy of culture, philosophy of religion, philosophy of politics, and so on) in order to update its own cosmological syntheses, the disciplines maintain a preference for regimenting their own domains and conducting conflicts between disciplines.

The case has been made (above) that philosophy remains indispensable for adjudicating among paradigm clashes and domain conflicts. Nevertheless, excessive intervention or interference from philosophy is rarely appreciated.

Each discipline has not entirely forgotten how it descended from philosophy in its origins and inspirations, and inherited those paramount capacities of intelligibility. When a discipline decides to resist philosophy's interventions, the opportunity to

replace philosophy's four modes with its own disciplinary versions stands wide open. The announcement of independence from philosophy has to take cosmic proportions. Leading intellectual(s) of a discipline – typically either history, social theory, theology, political theory, economics, or science – take the position that only their discipline knows and appreciates fundamental reality in the right way. Science's attempt to challenge and replace philosophy is discussed in the next section.

	Metaphysics **What's most Real**	Epistemology **Where's Knowledge**	Axiology **Greatest Value**	Ethics **Highest Ideal**
HIST History	**Successive Eras** Contra-philosophy: Temporality is fundamental. Everything real persists only during its temporal span. ***Historicism***. Co-opting Philosophy: Cosmologically, the "eternal" or "absolute" means "the endless" evolving Whole, inclusive of every cosmic epoch.	An era's own ***episteme*** sets what can count as information and credible knowledge for that time. Contra-philosophy: Nothing epistemic has absolute validity for all times and eras of humanity. No thought transcends its situated timeline. During an era, its episteme yields certain validity and knowable truths. Applying the episteme of one historical age onto another age is unintelligible folly.	An era composes and preserves memorable ***narration*** elucidating their self-understandings. Contra-philosophy: No "greatest good" carries any meaningful import across all historical spans. During an era, its overarching grand narrative recounts and illustrates what holds supreme importance for life then. Expecting past peoples to pursue today's values only renders them unintelligible.	An era's elucidated sense of timely ***purpose*** heads towards worthy ideals of humane cultivation. Contra-philosophy: Ethical principles command respect during one era or another, but not the same salience for all humanity. Each era's distinctive moral ideals guide worthy and meritorious conduct for those times. Judging a different era according to current ethical standards is unintelligibly unfair. Co-opting Ethics: Today's accepted morality can't be contradicted by philosophy, so Historicism is more trustworthy on proper ethics.
SOC Social Theory	**Social Groups** Contra-philosophy: Sociality is fundamental. Everything real vitally participates in networks of significance. ***Sociologism.***	Each society maintains its complete stock of communal ***expertise*** among its membership. Contra-philosophy: Nothing conceivable lies beyond social mentality making all thinking possible. No sentience transcends its culturally embedded context. All social knowledge(s) should be mutually translatable through hermeneutics. Dismissing as unintelligible any views discordant with one group's worldview only spreads ignorance.	A society enforces cultural ***custom*** for perpetuating norms and practices for all of life's activities. Contra-philosophy: The greatest goods for life are pursued within social practices where anything valuable is gained. No sort of expertise pursues some imagined highest good too impractical to ever attain. Confluences of traditions and creative arts energize innovations. Ranking societies by similarity to one "best" way of life is unintelligent prejudice.	A society's solidarity with its sense of collective ***identity*** enables proper human flourishing. Contra-philosophy: Moral norms follow from responsibilities and duties attached to one's roles in society. There are no higher laws of right or righteousness to follow. Every society deserves the opportunity to uniquely develop in harmony with the rest. Elitist worldviews aren't more intelligible just because they can be unjustly authoritarian.

	Co-opting Philosophy: Metaphysics should emphasize organized relationality, rather than idealizations of abstract rationality.	Co-opting History: Existing societies, not eras in general, deploy their pervasive epistemes. All epistemology is social epistemics.		Co-opting Ethics: Sociologism can be trusted to respect a society's deep values without demanding compromises thought up by philosophy.
THEO Theology	**Ultimate Perfection** Contra-philosophy: Divinity is fundamental. Cosmic law and order presumes the work of a supreme organizer. ***Theologization***. Co-opting Philosophy: Anything actual and valuable in the cosmos depends on the ultimate reality.	Religion fosters noetic ***illumination*** into the paramount realm of oneness in supremacy. Contra-philosophy: Pragmatic reasoning and pure rationality do endow sentient beings with means of acquiring plenty of knowledge. Yet philosophy falls short of accounting for the ultimate applicability of those methods aiming at truth. Unless a final justification settles their assured validity, they remain unintelligibly arbitrary. Co-opting Social History: No lasting culture or civilization lacks the religious dimension. The story of humanity is the story of Deity.	The religious path leads one away from selfishness and guides life towards everlasting ***sanctification***. Contra-philosophy: Leading the good life appropriate for humans requires the status of dignified personhood and the pursuit of higher purpose. No amount of material and mortal living can liberate the spirit above animalistic avarice and anxiety. Leading a life resigned to finitude and suffering cannot be intelligently accepted.	Spiritual journeys offered by religions develop the purity and rectitude required for ***salvation***. Contra-philosophy: Philosophical ethics seeks what is permanently right, while overlooking the centrality of eternal spirit. Ungrounded and adrift, ethical theories capture this or that aspect of propriety without ever reaching consensus. The righteous life of universal compassion prevents unintelligible despair and evil. Co-opting Ethics: Philosophy compiles ethical theories without finally establishing any; moral absolutes require a beneficent Absolute.
POL Political Theory	**Ruling Power** Contra-philosophy: Dominance is fundamental. Everything real bears the actual power to remain real. ***Politicization***. Co-opting Philosophy: Nothing stands as authoritative unless there	Knowing is powerful, but only power ensures that knowledge has ***dominion***. Contra-philosophy: All learning should strive to propagate so that it isn't just true, but widely and compliantly accepted. Philosophy forgets that knowledgeable mastery wouldn't exist without the accredited master. Noble thoughts that end up dying with the thinker are unintelligibly pointless. Co-opting Social History and Theology: The greatest earthly dominion is held by the	Political ***authority*** provides necessary affirmation and enforcement of values. Contra-philosophy: Fine-sounding values are mere fantasies unless everyone admits their supreme worth. Only rulership has both the right and the might to make high values realizable for all. Philosophical notions about values that are nowhere actually supreme are unintelligibly useless.	Political ***decree*** unifies civil order to secure society against moral confusion. Contra-philosophy: Renegade ethics unhinged from public lawfulness are dangerous threats. Ethical rules contrary to the government's rightful jurisdiction lack all sense. Philosophical quests for principles trying to judge legitimate sovereignty are unintelligibly asking for disorder and anarchy. Co-opting Ethics: Philosophy's dreams base politics on ethical ideals, but the law actually makes

	is actual authority in power.	ruling class's devout convictions and ends.		people behave more morally and civilly.
ECON Economics	**Efficient Prosperity** Contra-Philosophy: Material means are the only practical means for obtaining worthier ends. ***Economization***. Co-opting Philosophy: Existing takes energetic work and nothing unfit or unnatural survives.	Knowing a thing lies in pricing and return-on-investment ***calculation***. Contra-philosophy: Commodity, market, and revenue data accumulate fast for trend analysis. Exceptions to economic laws are rare. Violations have dire consequences, like any scientific law. Co-opting Politics: Politics is class warfare anyways, so economic ideology should rule governing policy.	Results from fair exchange competitions determine efficient value ***allocation***. Contra-philosophy: Materialism gets a bad reputation from idealisms unable to realize their unintelligible fantasies. Everyone building realities are self-interested in their personal well-being.	The greatest good can be attained when all receive their deserved ***earnings***. Contra-philosophy: An ethics of fairness only seeing inequalities now will impose unjust redistributions to the unworthy. The liberty to make one's own life is the best freedom on earth. Co-opting Ethics: The virtues of prudence, honesty, and thrift will make the world more moral than charity.

Philosophy holds that its domain alone encompasses the final manner of realizing reality. This preeminence among disciplines can surely be contested, and has been challenged, by rival disciplines. However, philosophy retains its supremacy among academic disciplines for its unparalleled explanatory scope and humanistic spirit.

Sociology claims to be more humanistic, encompassing any reality that humanity can realize. Observing structures of organization brings control and domination into view. How did such modes of domination arise and persist? Humanistic sociology feels compelled to ally with history (to prove society's contingencies) and identify with ethics (to prove society's immoralities). A felt duty to expose unjust power, and perhaps subvert domination, energizes social theory's resistance to the machinery of political economy. When social theory suspects that philosophical ethics won't suffice for this contest, then it adopts postures from theology. Social thinkers adopt a missionary idealism about the "greatest good" to deliver earthly salvation for a suffering humanity. **History** has abundantly recounted that mission. Eighteenth century capitalist thinkers appealed to natural rights to rescue the peasants from feudalism; nineteenth century Marxist thinkers appealed to inherent worth to rescue the workers from capitalism; twentieth century libertarian thinkers appealed to individualism's sanctity to rescue property owners from communism; postmodernist thinkers have appealed to communalism's wholesomeness to rescue marginalized groups from neoliberalism; and so on. Only in recent times has academia witnessed sociologism's antagonism against economization; sociology's tight alliance with economics during the early 1800s, and again by the start of the 1900s, was already conveniently forgotten.

Philosophy observes how Social Theory never settles on any steadfast ideal for all humanity, only swinging back and forth between extremes. Philosophy also observes how political-economic theory easily absorbs and transmutes the latest sociological critique for conducting its own ongoing agendas thanks to their shared premise of social relativism. When sociological theorizing insists that some classification ('motherhood', 'laborer', migrant', etc.) is "just a construction" then there must be a Constructor guilty of domination (the 'patriarchy', 'employer', 'native' and so) but that exposed 'power' is no less an imagined construction too. Empowerment has many friends in the business of rhetoric, literature, and journalism to arouse public sympathies. Moralizing sociology will easily "explain" disempowerment when the suffering simply speak of their innocence and entitlement. What does social research contribute, beside another megaphone?

Political Theory also observes how moralizing sociology is just more politics, which is already moralistic enough. Let sociology take up intellectual arms on behalf of some against the rest, no matter high or low; political theory recognizes a player on its own field of power politics when it sees one. There will always be politics, intelligently conducted or otherwise, but sociology should maintain its academic loyalty to confirmable truth. Sociology, by increasing society's knowledge of itself, can be

trusted to enlarge liberty; a sociology that is merely political cannot be trusted anywhere. If History, Sociology, Theology, and Political Theory collude to reduce knowledge to politics (as happens with totalitarianism, and postmodernism) then the one thing that surely gets disempowered is the intelligent mind.

Postmodernism

The dispute between Modernism and Postmodernism offers a recent case to illustrate challenges to philosophy's supremacy, and their failures to succeed.

Postmodernism constructed "Modernism" as a challenge not to a worldview of the Enlightenment Age, but to a 20th Century consensus assembling within academia. That collaboration was at last incorporating the sciences and human sciences (especially economics and psychology) among core disciplines, with the expectation that experimental methodologies would improve all disciplines. Philosophies from pragmatism and critical realism to empirical positivism and humanistic naturalism offered arrangements to structure those scientific commitments. Rather than participate or even probe those arrangements, postmodernist schools set up straw men statues of "modernism" to decry their worship and topple them over. As a construction of postmodernist theorists – by their own dictum of academic idealism – this imagined "Modernism" was an academic creation, not real some 300, 200, or even 100 years prior, but existing only for Postmodernism itself.

That academic construction of Modernism was imaginary, yet nonetheless intellectually potent. Postmodernism's rebellion on behalf of culture and humanistic disciplines amounted to assertions of historicism, sociologism, theologization, and politicization. Rebellions within those four disciplines were joined by literary criticism (relying on historicism and/or theologization) and cultural studies (relying on sociologism and politicization). What they all shared philosophically was their grounding in Idealism: knowledge and reality can get no farther than minds making up their own viewpoints. Academic theories (except postmodernist ideas of course) bear a close resemblance to novels, saying more about their authors or their eras than any of their unreal entities (of theory) or characters (of fiction).

To understand what a discipline thinks that it knows, only study the history of that discipline and what it has thought.
> The history of something addressed by academia is nothing but the history of that academic inquiry itself. Thus, whatever "the Far East" might be, its history is nothing but the history of academic views about this imagined topic. Besides, all knowledge rest on paradigms, and today's 'knowledge' is just about today's paradigms.

The only two alternatives are EITHER Knowledge established with certainty OR Notions familiar to a culture.
> If a discipline can't guarantee *certain* final knowledge about something, whatever a society traditionally believes stands as unchallengeable knowledge. Fortunately, no scientific inquiry validates its theories with infallibility. Besides, what the *many* prefer to think carries more reliability than what the *few* want us to think.

What is most unquestionable is best pronounced so it stays the least accessible.
> When a discipline asserts its principles with incomprehensible verbiage rather than rigorously clear propositions, those principles seem unchallengeable. Rival disciplines cannot start controversies for lack of understanding. Besides, an aura of mystery is a sure sign of credible authority.

Structures of knowledge are either systems of domination, or they must be answerable to popular politics.
> Research agendas and results must be answerable to contemporary dictates of moral sensibility and good taste. There is no such thing as knowledge that is simply true unless it is also good, and good for society to know. Besides, academics cannot be ethical by offending the good sense of the people.

With these post-truthy dictates in mind, Postmodernism looked to one or more academic disciplines to subvert and replace philosophy:

History: History as Philosophy alleges that (a) each age follows its own *a priori* unquestioned principles permitting the acquisition of the forms of knowledge characteristic of that age; (b) these distinctive "historical *a prioris*" can only be discerned historically by a later age able to notice past epistemic transitions; and (c) philosophical worldviews only happen within these historical ages, never transcending any historical age after age. Philosophy responds by pointing out that History's capacity to notice alterations to "knowledge" itself presumes a transhistorical essence to knowledge: how else would historical inquiry discern when 'knowledge' has occurred? Philosophy also notes how History is incompetent to predict

how and why adjustments to the nature of knowledge should occur to shape the next age. Lacking such philosophical supervision, History blindly imposes its own age's knowledge upon past eras without guiding the next era. Furthermore, while History may fixate on imposing divisions separating eras, historical inquiry continually surveys prolonged transitions and persistent worldviews. (Philosophical history deals with methodological difficulties in historiography.) History pretending to be Philosophy traps all knowledge within the current age without liberating human curiosity, and hence unintelligently amounts to relativistic historicism.

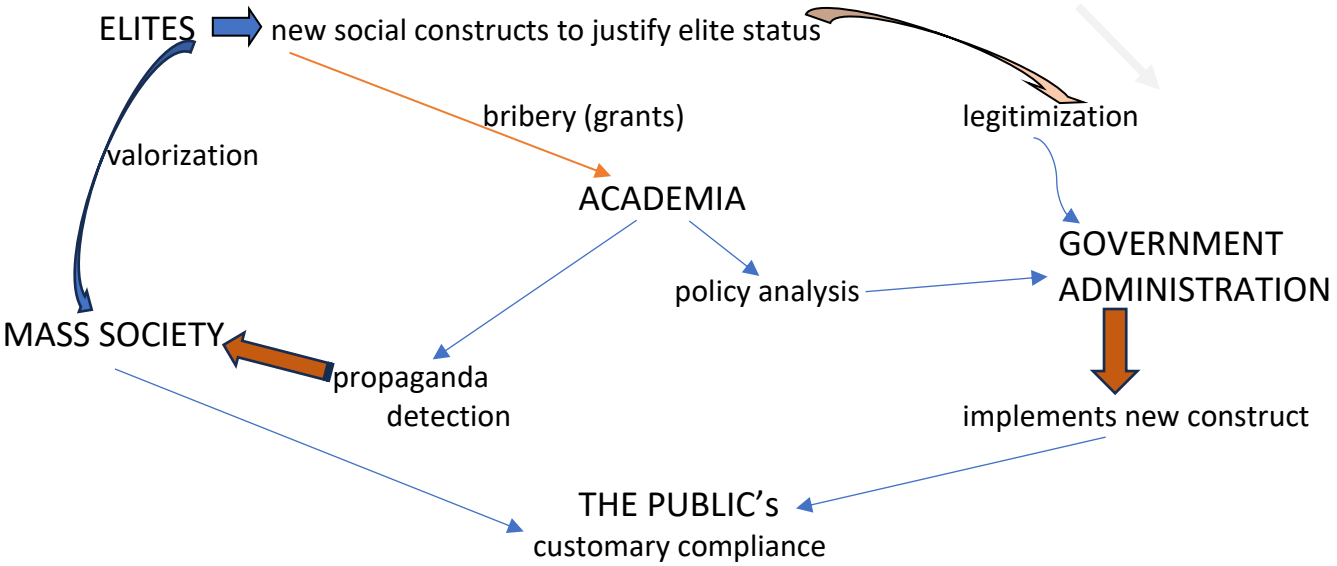
Sociology. Sociology as Philosophy contends that (a) each society promulgates its own conventional customs inculcating the sorts of expertise recognizable by members; (b) each customary culture can only get distinguished sociologically by comparisons among societies noticing their divergences; and (c) philosophical standards make sense only within social contexts, never having relevance to all societies. Improving on historicism, sociology observes ample knowledge(s), including variant conceptions of time, across every age and stage of human society. Philosophy responds by pointing out how Sociology's ability to fairly compare all societies presumes a universal nature to humanity: how else would social inquiry classify what counts as forms of culture? Philosophy also notes how Sociology is incompetent to explain how and why general trends of cultural development should prevail in the long run instead of social degeneration or devolution. Lacking such philosophical supervision, Sociology exaggerates human differences while assigning all societies an equal merit they do not deserve. Furthermore, Sociology exalts the unquestionable authority of a society over its members, only to next undermine that dominion with sociological relativism's depiction of authority as local contingent rather than universal. (Social philosophy deals with puzzles about foundations to social norms.) Sociology pretending to be Philosophy reduces all sociality to organizational contrivance without respecting human aspiration, and hence unintelligently amounts to amoralistic sociologism.

Theology. Theology as Philosophy avows that (a) religion was the original cosmological and orthological thought to answer the abiding questions about life, meaning, and destiny; (b) theological religion coordinates ultimate reality with supreme goodness to prevent metaphysics and ethics from disconnecting or disagreeing with each other; and (c) philosophical worldviews are less comprehensive than theology's inclusion of encounters with the mystical, miraculous, and majestic. Improving on social history, divinity's providential involvement accounts for momentous dramas enacted in human history. Philosophy responds by pointing out how theological devotion gets bestowed upon either one particular religion it serves among thousands (parochialism), or to some "essential" religion it distills from multiform religiosity (puritanism). Philosophy also notes how Theology is incompetent to explain whether ethics sets what divinity can do, or divinity decides what is ethical. Lacking such philosophical supervision, Theology subordinates the other disciplines to undisciplined faith and subjects "less religious" cultures to unjust contempt. Furthermore, Theology treats religion as the "unmoved mover" responsible for cultural soundness while staying aloof from social change. (Philosophical theology deals with conceptions of deity evolving right along with culture.) Theology pretending to be Philosophy imposes a singular religious worldview without enriching human experience, and hence unintelligently amounts to sectarian dogmatism.

Political Theory. Politics as Philosophy dictates that (a) dominant worldviews owe their popular prevalence to compelling social forces and vanish without them; (b) only the unification of authority politically provides the civic conditions for consolidating knowledge systematically; and (c) a people expect the rightful order of nature to mirror the prevailing political order. Improving on providential history, government gets enthroned as the indispensable driver of both social solidarity and historical progress. Philosophy responds by pointing out how Political Theory's coronation of the State as the most reasonable and ethical force for right and rightness burdens one institution with a heavy responsibility that it rarely fulfills. Philosophy also notes how politics perpetually requires reform, reconstitution, and occasional revolution, justified by advancing ideals that are never appreciated by entrenched ruling powers. Lacking such philosophical supervision, Political Theory allows a ruling class (usually the wealthy caste) to craft an image of cosmic design that merely reinforces the current regime. Furthermore, Political Theory grounds government on principles that assume rather than prove a pervasive need for coerced compliance. (Political philosophy considers independent grounds for judging the extent of legitimate government authority.) Political Theory pretending to be Philosophy allows convenient might to make absolute right without enlarging human liberty and hence amounts to oppressive tyranny.

Although Philosophy can hold off the predations of the other disciplines, the general defense of Academia against the encroachments of Ideology is a ceaseless struggle.

IDEOLOGY: making Elitist constructs operative in the political sphere by normalizing and valorizing them across society and its public discourse towards the goal of getting those constructs to be invisibly effective with the compelling force of custom.



Academic disciplines, especially those in the social sciences, must be able to identify social constructs without assuming their legitimacy for theoretical discourse.

Many social constructs are exposable as elite constructs crafted to make elites appear legitimate and worthy of their high status. Compare two disciplines:

Discipline A: uses a social construct as its own term with the same social connotation in its theorizing about social matters. Discipline A thus ends up uncritically following the Ideology behind that construct. Discipline A lends that construct additional legitimacy as an explanatory reality, thus reinforcing the Ideology.

Discipline B: only mentions that social construct as a word commonly used, without adopting that word as term as well. Discipline B discerns the meaning of the social construct, diagnoses its Ideological basis, warns the public about that propaganda (optional), explains that construct as having only an ideational/social persistence (not an actual existence), and thereby exposes that construct as an Ideological tool.

There are Academic hazards for a discipline studying a politically-charged social construct especially after it has attained much currency as an ideological concept.

"Why is that discipline teaching Race?" – implying that the discipline is endorsing racialized thinking.
"Why is that discipline teaching about Race?" – implying that the discipline is instilling race ideas.
"Why is that discipline theorizing about Race?" – implying that the discipline is taking race as too real.
"Why is that discipline thinking about explaining Race ideas?" – implying that the discipline excuses racist ideas.
"Why is that discipline looking at Race empirically?" – implying that the discipline still thinks race can be observed.

Disciplines Dictating to Other Disciplines

History, Social Theory, Theology, and Politics always fail to occupy Philosophy's unique disciplinary status. Their own philosophical presuppositions masquerade as unquestionably axiomatic only for so long until they erupt into Philosophy itself again. A dictatorial discipline, whether exulting in Philosophical pretensions or retreating in defeat from that throne, will attempt to control other disciplines along the way.

Social history makes a natural pairing of two neighbors, but Social Theory may be lured by a pretentious Sociology to envelop all of History. Sociology has an array of human groupings to choose from; clans, nations, civilizations, or just families. Is History "nothing but" national history? Just ethnic history? Or nothing in sum but biography? The spectacle of self-righteous Sociology on ethical grounds judging what History should say (and not say!) cannot be tolerated, for its self-defeating agenda. After all, learning from history's bad lessons rectifies future generations.

Theology would happily resign its Philosophy aspirations if it could impose dictums upon Social Theory. Psychology has never been subjugated to Theology, since the breadth of human consciousness extends farther than any theology's strictures on "legit" religious experience. Anthropology always looks like an easy target, but that conquest never pays dividends, since different religions prefer different views of humanity's nature. Theology would like to maintain control over Social History – let the story of humanity be just the story of religion. However, the arrival of modernity secularized the disciplines (even theology to a degree), Sociology became too guarded to trust Theology anymore, and postmodernity stays too pluralistic for theology.

Political Theory tempts History with offers of relevance and recognition (histories about politics usually win the book awards) but disciplined History roams far beyond the borders of Political history. Politics always looks to Social Theory with expectations for an advantageous alliance, but Social Theory knows well how that treaty's terms only serves politics, and fascists and tyrants are stepping onto the political stage next. Anthropology learned the lesson of letting current politics mold the shape of humanity's heritage; nothing about the Stone Age evolved us for any particular type of government (except perhaps to innately resist domination and regimentation). Psychology, too, now documents how political mentalities have their fervent potency in inverse proportion to their duration.

Economics, in the guise of philosophical materialism, asks Political Theory to see money as the root and route of all power, commands Theology to bend the knee to mundane worth, and then challenges Social Theory to disagree with its economic version of human progress. Those economic lenses, shaped to focus only on exchange value, get too thick for the other disciplines. Economists only observe the stick-figures of rationalized agents waging formulaic contests over marginal rewards. The humanity of real life gets obscured, and worse, throws all economic calculations into confusion. Even sports sees more blood shed on the field of competition. And the odds of winning a bet on a sporting event is higher than making money gambling on an economic theory's yearly prognostications.

Academic Fallacies

> "I believe there were some dinner clubs or supper clubs among the elder professors: but I never heard of any idea or movement springing up among them, or any literary fashion. It was an anonymous concourse of coral insects, each secreting one cell, and leaving that fossil legacy to enlarge the earth." – George Santayana on Harvard University c.1900, *Persons and Places: The Middle Span* (1945)

If only the academic life were as solitary and self-absorbed as it gets depicted for humorous effect. The opposite is usually the case: scholars busily criticize each other for inadequate research and rigor, and roundly critique errant theories and rival paradigms. Scholars will occasionally accuse each other of methodological folly, especially when rival paradigms compete within a discipline, but those contests are about more than mere inferential fallacy. Common fallacies get weeded out during drafting, reviewing, and criticism stages during ordinary scholarly inspection.

During disputes over paradigm boundaries an accusation of "Fallacy!" may be heard, but paradigms disagree on principles anyways, so the accuser begs the question. Far more serious are border wars between disciplines. Extraordinary fallacies can arise when one academic discipline or field comes under severe critique from another academic direction.

Unfair and unwarranted critique often commits some sort of academic fallacy, where one discipline makes accusations about another discipline's incompetence to investigate and comprehend its domain of competence. In short, an academic fallacy of one type or another will likely be involved when one discipline refuses to concede that another discipline has knowledge, or worse, one discipline claims better knowledge over another discipline's own domain. Could Sociology know history better than History? Such sweeping claims have been heard.

Across academic communities of inquiry, unfair fallacies tempt scholars into hasty and unwise critiques. Fallacies of critique can be classed into "Against the Scholars," "Against the Concepts," and "Against the Discipline" sorts of fallacies. Some fallacies of critique get directed at entire disciplines or scientific fields, targeting history, sociology, psychology, and so on. Inter-scholarly debate and cross-disciplinary critique is quite common and commonly productive, but resorting to academic fallacies have no place in academic discourse.

Some academic fallacies wrongly portray how intellectual scholarly activity is conducted in general, generating Intellectualist Fallacies. Intellectuals should never commit fallacies, to be sure. Fallacies against the "Intellectualist" attempt to catch the scholar or scholarly concepts in compromised and illegitimate positions, but such fallacies only spread misinformation. Further categories address each of the primary disciplines by (1) pointing out fair fallacies that a discipline can get caught committing, and (2) identifying unfair fallacies from wrongful accusations made by other disciplines.

Category 1: INTELLECTUALIST FALLACIES

Communities of scholars employ wise counsels and rational rules to insulate good thinking and sound reasoning from sources of error. Alertness about cognitive biases, default heuristics, statistical missteps, inferential mistakes, and flawed reasoning is foundational for strictly adhering to rational procedures. Large catalogues of fallacies assemble reminders about straying from strict rationality. Criticism is well-deserved for any degree of errancy. However, critique can inflate too far into exaggerated proportions, deviating from the level of postulations, hypotheses, theories, and the like where methodological scrutiny stays intelligently focused. Individual scholars, particular conceptual terms, and disciplinary contexts are all able to condition any theory's career, but isolating one or another of those factors for critique isn't playing fair.

Two main fallacies are pervasive in any academic discourse where argumentation relies on statements not falsifiable by facts because they dictate terms under which something can be factual. Philosophers sort them as tautological, analytic, a priori, definitional (and so on) propositions, but any field resorts to them as stock assertions immune from empirical tests. Even more assured propositions might contravene (but not falsify) less confident propositions, so an academic discussion can get sidetracked into a debate over whose indubitable truths enjoy greater certainty. Philosophy specializes in carrying such debates to extremes, but any disciplinary area must be warned against two common fallacies that try to gain unfair advantage.

The Dictionary Fallacy – assuming that an idea must be perfectly defined and unchallengeable when a definition for a term is quoted from a dictionary. Only simple ideas are captured in a word, and many meanings can attach to the same term, so picking out one definition from one dictionary is arbitrary. Show me a dictionary definition, and I'll show you another dictionary. Academics comparing dictionary definitions won't advance knowledge in their fields. Beginners who demand, "Where is that idea's definition in the dictionary?" won't learn much beyond didactics.

The Thesaurus Fallacy – assuming that a term can be ideally defined with certainty by linking it with synonyms of the sort listed in a large thesaurus. Resulting propositions only get vaguer than the initial terms themselves, even if they seem to mean the same idea, or imply the same thing, in one person's mind. As a form of free association, relating synonyms can be fruitful but more analogical or metaphorical than definitional. Philosophers often fall for this fallacy; for example: "I see that consciousness and mind are close synonyms and they seem the same to me, so anything with consciousness must have its own mind." That may be accurate enough for humans, but biologists study simple animals with aware feelings but practically nothing like a mind.

Against the Scholars Fallacies

Logic is familiar with numerous sorts of ad hominem fallacies, which distract attention away from arguing a position to arguing about that position's proponents instead. Fallacies Against the Scholars similarly distract attention away from an academic theory's empirical/explanatory merits by instead talking about scholars interested in that theory.

The No Fallacy Here Fallacy – claiming that a list of fallacies is inadequate just because the reader hasn't yet seen some fallacies in their own niche or corner or intersection of the vast expanse of academic areas and fields.

The Creator's Mind Fallacy – claiming that the motivations of a theory's originator forever determine the right interpretation of that theory, and an originator's dubious motives are especially deleterious for a theory.

The Creator's Hand Fallacy – claiming that the capabilities or designs of a theory's originator forever determine the correct application and extension of that theory, so that a theory should not be applied in a manner beyond its originator's plans.

The Academic Lineage Fallacy – presuming that a theory meriting consideration must have a worthy linkage back to past theorizing and/or a respected theorist, while dismissing theories that renounce or lack such a lineage.

The Ally's Testament Fallacy – claiming that one scholar's argument developed against a certain theory is halted and refuted simply by pointing to another scholar who approves that theory. Surely an theory worth critiquing has proponents to no one's surprise; yet a sound critique would equally undercut that ally and any others. This fallacy avoids the academic work of countering the negative critique point by point.

The Accomplice's Testimony Fallacy – claiming that a prominent scholar about a theory who confesses its faults has deflated all credibility to that theory.

The Proponent's Sin Fallacy – claiming that a theory's advocate who held disreputable views is an exemplification of that theory's own disreputable status.

The Theory of Theory Fallacy – claiming that a sufficient explanation for a theory's plausibility needn't be about any 'truth' it contains, but only about the inspiration or eminence it conveys to scholars.

The Paradigm Popularity Fallacy – claiming that the level of disciplinary credibility bestowed upon a theory is duly proportional to that theory's satisfaction of an ongoing public need or desire.

The Conspiracy Coverup Fallacy – claiming that the low level of scholarly interest credited towards a theory constitutes proof of an academic agenda to obstruct public knowledge about that theory.

The Theoretical Coinage Fallacy – thinking that the pertinence of a theory is bestowed by its discipline's role in the marketplace of ideas, and the theory's valence lasts only for the duration of that disciplinary currency.

The Theoretical Mirror Fallacy – claiming that scholars theorizing about X leads them to let a theory to take on features of X that it examines, permitting that theory to basically or ultimately become like X itself. EG a theory about education develops into an educational project; a theory about a public movement becomes part of a political agenda; a theory about religion eventually becomes an exercise in myth-making; and so on.

The Theoretical Esteem Fallacy – claiming that the level of scholarly credibility placed in a theory is duly proportional to its satisfaction of an ongoing disciplinary need or desire. Just point to a field's prudential, parochial, or providential drives: it is actually seeking intellectual legitimacy or promoting its academic status, or chasing a vision of that field's beneficence to humanity.

The Paradigm Envy Fallacy – claiming that a discipline's scholarly evaluation of a theory should be heavily based on its dependence on, or resemblance with, a highly successful paradigm of another discipline. Assessing a theory partly on its ontological compatibility with a neighboring discipline's paradigm is no fallacy so long as that contiguity could make theoretical and empirical sense. This paradigm envy fallacy is most visible when scholars from two widely separated disciplines – e.g. cosmology and psychology, or political theory and biology – get entranced by loose paradigm analogies.

<u>Against the Concepts Fallacies</u>

Lexical Exclusivity fallacies–

Philosophy: a term's only meaning is its precisely and clear definition.
History: a term's meaning is just its etymological meaning from the past.
Social Theory: a term's meaning is exclusively assigned by a social group using that term.
Psychology: a term's meaning is just whatever an individual thinks it means when using it.
Theology: a term's meaning inheres with its primordial significance to the divine.
Political Theory: a term's meaning lies in its impact for managing power relations.
Economics: a term's meaning is bestowed by its transactional role in exchanges.
Science: a term's meaning is bounded by its operationally defined meaning.

The Folk Diction Fallacy – assuming that the currently popular usage of a word conveys the only right meaning for its use as a term in academic discourse. This fallacy unfairly forbids a discipline from refining/redefining a term or else it getting accused of veering into unintelligibility.

The Just Semantics Fallacy – urging that academic discourse must use a direct term rather than pointlessly wavering over what complicated term serves best. This fallacy deprives academic disciplines of a crucial resource that selects the most precise and accurate terms that make the subject matter more intelligible. Complaining about semantics amounts to saying that it's better to stay ignorant about the topic that to learn how to apply some intellectual terminology.

The Forced Definition Fallacy – demanding that one's elaboration or analysis of a conception requires it to be a universally univocal term necessarily linked with other concepts. "A conception of C necessarily involves a conception of A and B." Perhaps so, for you, but C remains fuzzy all the same as a linguistic fact about society. Picking out one definition from a dictionary is just as arbitrary. Definitions are of course useful, and a reasoner should lend clarification or precision to a key term as provisional and operational for the issue or intellectual matter at hand. Imposing a constructed definition beyond that context upon other discourses or disciplines commits this fallacy of forced definition. More generally, reasoning does not require those "a priori" conceptions that rationalists fantasize about. Contextual definitions can perform all the hard work of directing reasoning. Philosophers are most tempted to transcends the bounds of topical inquiry and seek universal conceptions somehow commanded or commended by reason itself. Philosophical traditions ranging from common-sense empiricism to transcendental idealism have sought to sift conceptual necessities for humanity from verbal contingencies from society. To avoid this fallacy, admit that all definitions are provisional and revisable, answerable to the progress of empirical investigations and social institutions.

The Scholastic Diction Fallacy – to rightly speak of mundane matters and activities, only apply terms already intelligible from academic discourse. As the converse of the forced definition fallacy, excessive clarity applied beyond narrow intellectual discourse only distorts human practices. This fallacy unjustly deprives cultural forms and social practices of their own articulations and makes them seem unintelligible on their own. Many highly symbolic activities (crafts, arts, music, ritual, sport, etc.) have their own communicative articulations independent from speech's grammar, and they need not be primarily linguistic in their structures/schemas.

The Hasty Precision Fallacy – the supposition that any proper identification of Xs prior to empirical study must proceed from a precise definition of "an X" with necessary and sufficient criteria. This hasty presumption overlooks how an initial phase of empirical study should encompass a variety of candidates for X, and allow a tighter definition of 'X' to emerge during further study. Although no discipline should pretend to offer theoretical accuracy while using a vague term – the fallacy of vagueness – stages of hypothesis development benefit from empirical latitude. This hasty precision fallacy is especially pernicious when one discipline rashly makes accusations of vagueness about another discipline's usage for a term.

The Forced Clarity Fallacy – the supposition that a discipline's usage of a term is flawed because another discipline happens to use that term with a somewhat different theoretical meaning. No discipline is fairly forced to conform to a singular terminology across disciplines so long as its own usage conveys due precision. This forced clarity fallacy is especially pernicious when one discipline rashly makes accusations of ambiguity about another discipline's usage for a term. Coordinating one discipline's ontology with another's would require extra terminological uniformity, but consolidating paradigms is far more methodologically complex than just complaining about two meanings for a term.

The Theoretical Amber Fallacy – thinking that the significance of a theory is trapped within that theory's academic context at the time when it had vibrancy, and the theory's vitality cannot outlast that context. A corollary fallacy thinks that a theory's credibility cannot increase no matter that the theory receives emendation and improvement.

The Construction Creation Fallacy – the claim that when a conception of X gets academically constructed, only then does X itself enter into actuality. According to this fallacy, there's no point to investigating a postulated X as if

it really existed before its postulation; the postulation itself is credited with making X into a subject for discourse. This overreaching claim is fallacious because each academic discipline is responsible for constructing terms with predicates and properties applicable for its subject matter. Perhaps a postulated term in fact fails to denote something that actually existed, but that discipline is responsible for empirical disconfirmations. This construction credit fallacy mainly serves the agenda of academic Idealism: that all conceptual terms are really only about shared ideas and imaginings.

The Construction Cooption Fallacy – the claim that key theoretical terms have been uncritically adopted from partisan public discourse or applied in accord with a political movement. This fallacy wisely warns against academics getting coopted into a political agenda and contorting disciplinary discourse in service to that agenda. However, until an alleged theoretical complicity can be proven – a difficult task after a discipline explains the academic basis and function of its terms – this fallacy remains just an unfair accusation.

The Deconstruction Suspicion Fallacy – construing a discipline's theoretical terms as conceptually constructed (purposively or unintentionally) in concert with rationalizing a social order from the past or realizing a current ideology. The "deconstruction" of terminology and discourse supposedly exposes 'contradictions' long sedimented in discourse by prejudice and domination, freeing up language for resistance. Academic disciplines viewed as insufficiently 'liberating' from their own terminology fall under this suspicion. This fallacy, while unfairly sweeping in scope, wisely warns any discipline against an alliance with the shifting tides of political affairs, even if academics feel obligated to serve public interests.

The Immaculate Construction Fallacy – understanding a discipline's conception of a unit of explanation as entirely self-sufficient and complete with inherent features and capacities. That construal of an explanatory entity needing no external conditions or relations renders its existence strangely inexplicable, like a prime mover without an origin. Examples are a "civilization" in 19th century history, the "nuclear family" in early anthropology, "a gene" in mid-20th century genetics, the "rational agent" in economics, and the "individual" in behavioral psychology. Avoiding this fallacy only asks for a more relational, emergent, or developmental conception for the unit of explanation instead of a mere abstraction or idealization.

The Potent Construction Fallacy – understanding a discipline's conception of a unit of explanation as thoroughly interconnected with very broad circumstances and conditions around it. That construal of an explanatory entity affecting practically everything else makes its existence oddly impactful, beyond the original applicability of that conception. Example: "Culturally, 'mothering' typically involves the management of child-rearing and household affairs. But 'motherhood' has been an idealized role propping up patriarchy. So, mothers around the world are perpetuating their social domination under patriarchy." Indeed, mothering has to be socially significant, but that illicit shift in meaning to "motherhood" is a quite different conceptual construct. The fallacy is exposed by noting the academic difference between an anthropological concept and a political concept, so that conclusion about the world's mothers cannot be deduced in this manner.

The Unfair Counterexample Fallacy – understanding a discipline's new theorizing about better categorizing what has been disorganized, but next 'refuting' that theory for failing to include an 'obvious' case to be included or excluded. Theories offering a inventive method of defining and categorizing Xs only loosely gathered by resemblance or tradition run into criticism for failing to include a case traditionally accepted, or mistakenly excluding a case despite its resemblance. For example, let's suppose a theory suggests that "A fallacy is logical mistake posed as plausible." But that definition includes the non-fallacy of rhetorical hyperbole, and it excludes the well-known fallacy "appeal to force" (not a logical misstep, but a believable threat). In the wake of such criticism, skeptics complain that 'F' cannot denote anything and imagined Fs never existed the whole time, so no theorizing is needed.

The Predication is Identification Fallacy – construing a theory's empirical attribution of P to subject matter S as the theory's ontological identification of S with P. Example: Theorist A says, "The political power of the people is the basis for democracy." Theorist B then says, "Too bad that Theorist A thinks that democracy is just the masses acting tyrannically." A variant of this fallacy hears "X only comes from Y" when a theorist asserts that "X comes from Y" and mistakenly counters with an X not from a Y.

The Tokens but no Types Fallacy – the claim that M does not exist because there are so many distinctive and disparate Ms that can be noticed. This fallacy relies on a tacit principle that M's reality can be recognized only through an essentializing conception of M. No apparent 'essence' or something shared in the same way by all those M-ish things looks like a situation where, on that essentialist principle, no M is really there. This inductivist fallacy ensnares one in a logically inconsistent position, because the initial observation that "there are so many truly different Ms!" leaves one curious how they are all viewed as Ms in the first place. Evidently the working idea of "M" has been vague. That essentialist principle has only delimited bearing on theory construction; expecting an academic term to bear a simplistic definition is never fair. This fallacy is easily avoided by allowing M to vaguely but empirically denote M-ish things having family resemblances and fuzzy bounds, and many empirically existent matters are much like that. Alternatively, theoretical endeavors can discriminate criterial or operational conceptions where warranted to avoid the fallacy. All the same, a discipline offering deductive arguments using a vague M will commit the vagueness fallacy or the fallacy of four terms.

The Type but no Tokens Fallacy – the claim that the reality of M is unaffected by the lack of empirically confirmable identifications of particular Ms. This fallacy relies on the tacit principle that M's explanatory power prevails through a successful theoretical model, so its ample reality cannot be overturned by mere appearances. This abductivist fallacy enacts a logical inconsistency, because the postulation of M as a real cause could not have been so abstractly detached from observed matters. (If M is indeed an entirely abstract 'entity' like an energy, force, or law, then its postulation isn't a 'Type' but instead playing a different theoretical role.) This fallacy is easily avoided by conceiving M as an essentialization or idealization only partly or thinly exemplified in concrete matters, accounting for the conceptual pathway from noting particulars to appreciating a generality.

The Ageless Evidence Fallacy – expecting that evidence which once counted against a conceptual position will always stand up to refute any future modified version of that position. This fallacy permits opponents of a theory to take the unfair short-cut of dismissing any updated version with the reminder that an old version had empirical shortcomings. This dismissal is fallacious because (1) fresh theorizing sometimes reveals how old evidence isn't actually as strong or valid as once thought, and (2) a new version of a theory merits its own comparison with a currently updated body of evidence.

Category 2: PHILOSOPHY

As the curator of epistemology and truth/knowledge criteria, Philosophy upholds standards for reliable deductive, inductive, and abductive reasoning. Discriminating and detecting fallacies are its specialty.

Evaluating Deductive and Inductive Arguments

A **deductive** argument may be logically valid, sound, consistent, compelling, and conclusive (or not), as follows:

Valid: When all Ps are T, then C is T.
Sound: Valid, and each P is T.
Consistent: Sound, and no P implies another P's F.

Invalid: C might be not-T when all Ps are T.
Unsound: Invalid, or some Ps are not T.
Inconsistent: Sound, but a P implies another P's F.

Compelling: Consistent, and each P is known to be true.
Uncompelling: Consistent, but not all Ps are known or knowable.
Conclusive: Compelling, and there is no consistent argument that concludes not-C.
Inconclusive: Compelling, but there is a consistent argument that concludes not-C.

An *Aporia*: where a compelling argument concludes C but another equally compelling argument concludes not-C, so that the truth or falsity of C is suspended as Inconclusive. An aporia can be formulated as a dilemma or a paradox. The resolution of an aporia comes with either (a) dissolution, when a premise or a term of a premise is discarded as unmeaning, or (b) distillation, when a premise's truth (or a term's meaning) only holds in a certain respect or from one perspective.

An **inductive** argument should be designed to be strong and cogent, and hopefully convincing.

Strong: If the Ps are probably T, then C is probably T.
Brittle: Strong, but the Ps only seem T to oneself.
Consistent: Sound, and no P can imply another P's F.

Weak: C is not probably T when all Ps are T.
Broken: Weak, or some Ps are generally dubious.
Inconsistent: Sound, but a P can imply another P's F.

Cogent: Consistent, and each Ps is probably accurate by common thinking.
Uncogent: Consistent, but one or more Ps aren't accurate by common thinking.
Confirmable: Cogent, and each P separately is verifiably known.
Unconfirmable: Uncogent, or some Ps aren't verifiably known.

An *Enigma*: where a cogent argument concludes C but another equally cogent argument concludes not-C, so that the conclusion remains unconfirmably enigmatic. An enigma can be resolved with more empirical knowledge, to either dismiss a premise as erroneous, or add empirical knowledge that reduces an argument's credibility.

A compelling or conformable argument, whether deductive or inductive, should strive to be **coherent** and **sustainable** for maximum credibility.

Coherent: Compelling (ded.) or Confirmable (ind.), and all Ps are jointly verifiable while affirming the Conclusion.
Incoherent: It is not possible to verify a P while affirming the Conclusion.

Sustainable: Coherent, and affirming C cannot contribute directly or indirectly to lowering any P's credibility.
Unsustainable: Affirming C contributes to lowering a P's credibility.

Besides the longs lists of deductive and inductive fallacies, reasoning fallacies include these four *Meta-Fallacies*:

The Aporia Fallacy: an unacceptable argument that appears credible but it meets an aporia (defined above) countering it. Until that aporia is resolved, accepting such an argument commits the Aporia Fallacy.

The Enigma Fallacy: an unacceptable argument that appears credible but it meets an enigma (defined above) countering it. Until that enigma is resolved, accepting such an argument commits the Enigma Fallacy.

The Incoherency Fallacy: an unacceptable argument that appears credible but an affirmation of its conclusion would prevent the verification of one (or more) of its premises. This sort of fallacious argument should be categorized as Incoherent. Perhaps the conclusion's truth would directly or indirectly imply that a premise is false; perhaps a premise becomes implausible where the conclusion is accurate; or perhaps anyone affirming the conclusion would find that a premise becomes unknowable.

The Unsustainability Fallacy: an unacceptable argument that, despite being credibly coherent, has a conclusion whose affirmation would directly or indirectly contribute to lowering the credibility of one or more premises. This argument should be categorized as Unsustainable. Perhaps the conclusion's truth would, as a component of other coherent knowledge, prevent the confirmability of a premise, or perhaps anyone affirming the conclusion would find that methods of confirming a premise are rendered inoperable.

Ambitious philosophical views on metaphysical, epistemic, or normative principles can lapse into fallacious reasoning when a position leaps beyond its proper knowledge domain or academic discipline.

The Reporter's Fallacy – the invalid argument supposing that an experiential episode represents something, based simply on someone's language usage to report a representation about it. Confusing a spoken report with a mental event is no longer a methodological failure for psychology, and linguists understand how concepts shape experiences. Nevertheless, philosophers keep trying to reduce how we experience the world down to what we are apt to say to others about that world. It is not so easy even with words to convey what it is like to undergo individual experiences, which is less about representing things and more about enjoying, enduring, valuing, and managing them. Speech can convey packaged information, but reports are selective reframings for others rather than inner reflections. Statements are assembled representings made to others, not picturings of what one actually perceives. In general, honest reports inevitably fall short of veridical observations.

The Real Realism Fallacy – the invalid argument attempting to prove that a worldview is genuinely Realist (with rivals being irrealisms) by conflating the epistemic criterion of objectivity with the ontological criterion of independence. The fallacy relies on the ambiguity of "being real" when a worldview tries to have it both ways. For example, Idealism claims that it is the most Realistic worldview: the Real is what gets objectively minded (reality is mental anyways), so it must be knowable as objective "for mind" – as if minds get to know the 'independently' Real. Idealism's critics need only point out the fallacy, that such independence is surreptitiously faked. On Physicalism's account, the Real is what gets independently minded (reality isn't mental anyways), so it must be knowable as independent "for itself" – as if knowers get to mind the 'objectively' Real. Physicalism's critics simply point out the fallacy, that such objectivity is intellectually constructed. No metaphysical advantage is ever gained, either way. For example, should physicalism allocate all reality to what is scientifically known, this materialism is welcomed as a fellow Idealism for its objective reduction of the real to theory. Likewise, should idealism segregate all reality into separate minds, this personalism is welcomed as a fellow Realism for the independent segregation of substantive mentalities.

The Elastic Elemental Fallacy – the reliance on dialectical argument to hastily conclude that an adequate pancosmic worldview (nothing real to be omitted) must ascertain a thin category common among all reals to be installed as fundamentally elemental for anything else to exist. By erecting this "Ur-ground" of all ground to any being(s), the reality of anything else must look to this self-explaining and self-containing foundation for an explanation, and hence this Ur-Ground is by definition able to account for the existence of everything else through

that commonality. By contrast, a worldview setting its metaphysical foundation too far from commonality with everything renders it incapable of explaining everything, thereby refuting itself. This fallacy should be avoided mainly because anything so conceived abstractly enough to be "in" everything is devoid of its own demarcated predicates/properties, without which any "explanation" for anything else looks quite mysterious after all. At least Thales's choice of "water" for the Arche looked consistent with natural changes. Anaximander's "aperion" (the indefinite), Aristotle's "prime matter", or Daoism's "Dao", and so on, are just empty notions aside from their mysterious responsibility for everything else. In general, "Being" or "the ground of being" and similar notions are just dialectical variables unready to be real. The Elastic Elemental fallacy is a manifestation of Monism; Dualism and Pluralism avoid this fallacy.

The Elusive Elemental Fallacy – the reliance on dialectical argument to hastily conclude that a category going unexplained by a pancosmic worldview (nothing real to be omitted) must be inserted as elemental to revise that worldview. By installing this newly-elemental category with the fundamental nature of everything, the explanatory gap problem is expediently resolved. In illustration, panpsychism is popular with those impatient for naturalistic accounts of feeling and sentience (and consciousness, mind, and so on). The fallacious mistake comes with the first step of impatience with a pancosmic worldview. Such impatience, if indulged, generates multiple elemental categories for each elusive aspect of the world. By contrast, a pluralistic naturalism doesn't make physicalism's mistake of evaporating all consciousness (and physics no longer takes substance, matter, extension, or forces as fundamental). Another age-old version is Pantheism's impatience for unifying the deity with creation; a modern fallacy is Vitalism's impatience for biochemistry's explanation of life. This fallacy promises to find a fundamental element to guarantee cosmic explanation while depending on outdated science, aligning with religion, and delivering more mystery. Does matter fail to explain mind? Mind no better explains matter after those categories got so opposed; nothing mental can make a body move and panpsychism will never show why any chemical reaction would happen. Settling for metaphysical or property dualism enshrines even more mystery.

The Categorical Dichotomy Fallacy – the reliance on dialectical argument to drive reasoning into a forced choice between alternatives paired as categorical contraries. To fulfill the fallacy, one alternative is strenuously denied (hence "proving" the other) with far more argumentation than whatever justification the categorical dichotomy ever receives. Dichotomies abound: what isn't objective must be subjective; what isn't sensory must be conceptual; what isn't lawful must be chaotic; what is conventional mustn't be natural; what isn't commendable must be wrong; and so on. Mere contrasts serve theoretical constructs, but exaggerated contraries serve only poor methodology; upon defining one side as D, the other is simply left to be Not-D or Non-D, as if those abstract negations carried definite meanings too. (Thus, having defined 'space' mathematically, has "the non-spatial" thereby attained clarity?) Categorical dichotomies elevate principles above and beyond domain bounds, perhaps to privilege epistemic directives upon ontology or vice versa, or to warrant metaphysical dictates upon axiology or the other way around, and so on. No matter how intuitive or a priori such categorical dichotomies may seem, they take unreasoned philosophical shortcuts in current debate and they age badly when a future century finds them inept or irrelevant.

The Imbalanced Identity Fallacy – the expectation that the ontological identity between two (apparently) distinct entities (e.g. a person, a human body) or mode of existing (e.g. the mental, the physical) proves the prior or superior reality for just one of them. The fallacy misses the metaphysical point of complete ontological identity; either party to the identity has equal claim to being "more real" and hence neither can be: they are but one entity whose label becomes arbitrary. For example, materialists cannot enjoy their reduction of *all* mind to matter while idealists congratulate their absorption of matter into mind by that same principle of identity. The decisive ontological strategy has to incompletely explain only key feature(s) of the entity to be reduced, eliminating the rest as unreal ("of course an idea has no causal effect") and thereby leaving the paired entity (the brain activity e.g.) as expansively superior in reality. That is why metaphysical maneuvering argues over what constitutes "essential" features of respective entities to *prevent* their identification: "Your reduction omits my entity's essential feature." Thus, mental matters are supposed to be *essentially* qualitative, or intentional, or first-personal, or .... etc., never

to be explained in non-mental terms. Beyond philosophy, this fallacy is oft-heard among social theorists and psychologists displacing some human matters from effective reality in favor of theorized forces and powers. Arguing over essentials commits no fallacy, but presuming that your essentializing and explaining guarantees an ontological identity favoring your camp is fallacious.

The Criterion Problem Fallacy – the inconclusive argument that because no one is able to know knowledge, for no criterion to knowledge can itself be known, then no one has any knowledge of anything. On the epistemic axiom that only a criterion for knowledge already tested against known truths merits trust, it is next premised that no truths are knowable without meeting criteria, so any verification is emptily circular and no knowledge criterion can be validated, leaving nothing to be known. This skeptical "Problem of the Criterion" itself requires two knowable premises (making the argument self-defeating), and either or both premises can be abandoned. Pragmatism suggests that modest methods for gaining knowledge themselves improve along with gradual knowledge acquisition over time (as in experimental science). Foundationalism suggests that human judgment is replete with ordinary knowledge untested by prior criteria (as with intuition, perception, common sense). Whatever non-axiomatic epistemology one prefers, there is no academic merit to appealing to this fallacy.

The Criterion for Certainty Fallacy: arguing that an ontological or metaphysical thesis cannot be reasonably denied, on the grounds that any possible knowledge depends on the veracity of that thesis, to then conclude that this thesis is certainly known. Simplistic transcendentalist arguments display this presuppositional fallacy. Avoiding this fallacy requires the provision of substantive reasons for accepting the claimed knowledge dependency on just that thesis and no other. A version of this fallacy, sometimes labeled as Presuppositionalism, has been popular in theological epistemology, with the claim that "God is necessary for a capacity for knowledge, so no knowledge claim can directly or indirectly deny God, so then it is irrefutable that God is known." Natural theology's efforts to denigrate non-divine knowledge first is a straightforward way to avoid this fallacy. (Although natural theology derails from the fallacy of false dilemma– e.g. natural senses are faulty, hence divine involvement, etc.).

The Certainty from Stalemate Fallacy: concluding that one's ontological or metaphysical thesis is more credible or quite certain because its contrary theory can never be better known that one's own. Admitting that the certainty attaching to one's thesis could be matched by its contrary opposition lends this fallacy the appearance of guaranteed certainty. This fallacious move from an epistemological stalemate to an ontological or metaphysical position is akin to circular reasoning, where the certainty attaching to one's position seems to be well-supported by the "inability" of the contrary position to prove one's position incorrect. One version of this fallacy affects the realism-phenomenalism debate: "Proving that objects are just phenomenal requires more unobtainable knowledge about reality than taking objects to be materially real, so we can be certain they are real." Certainty is not knowledge and not even undeniable knowledge; nothing can be proven in this manner, as is shown by the way that the contrary position can make the same fallacious argument to restore the stalemate.

The Modal Transition Fallacy – assuming that an evaluative judgment (about what should be or must be) valid for one area of discourse maintains the same modality where that judgment occurs in another area of discourse. Disciplines ordinarily ignore this fallacy. An organism *should* survive (biology) but a human won't survive alone (anthropology) and a person may sacrifice life (ethics). A statute *must* be obeyed (law) but a jury might set it aside (jurisprudence), and an unjust law could be disobeyed (political theory). Ignoring such illustrations about shifting modalities, an aggressive philosophical position imposes a uniform "should" or "must" across disciplines. For example, a certain philosophy argues (for example) that pedagogy must teach communalism because the workforce must get communitarian because the economy must become communist because the revolutionary regime must gain power because the capitalist contradictions must collapse because dialectical forces of history must prevail. Theocracy and scientism can get similarly "totalitarian."

The Construct Displacement Fallacy – the presumption that a conceptual construct defined within a philosophical worldview must convey that precise meaning for theoretical discourse in another discipline. Like the syllogistic

fallacy of four terms, this interdisciplinary fallacy makes an illicit conceptual transfer, displacing the meaningful term in the other discipline and thereby invalidating any argument made. For example, a definition of 'free will' forged from metaphysics cannot be validly inserted into psychological or legal discourse about 'voluntary choice'. Friends of this fallacy would assert that another discipline intends to mean 'free will' so the transference is seamless, but those disciplines needn't accept that philosophical overreach. That overreach would be no less illicit were science to impose its constructs on philosophy or anywhere else. Nor is the fallacy dispelled by the baseless claim that there is only a single clear meaning for the ambiguous term in question. Furthermore, even if one meaning should prevail, another discipline would have the same privilege of imposing its terms on philosophy. Only interdisciplinary consensus, best gained through empirical confirmation, arranges ontological and terminological agreements.

The Foam Model Fallacy – the assertion that a philosophical position need not receive full elaboration and refutation because a simplified version evidently has a few holes and easily falls apart. Akin to the basic Straw Man fallacy, this argumentative strategy reduces a complex theory to an easily refutable model. A complex theory of any discipline, including philosophy, connects core assertions or hypotheses with clusters of reinforcing tenets and supporting facts. Perhaps a simplified framework offers a way to become acquainted with a theory, but framing leaves spaces and gaps. Poking into openings with counter-claims or counterexamples cannot deflate the full theory and yield little edification for anyone.

The Regressing Infinite Fallacy – the assertion that a philosophical theory should be rejected for its reliance on a premise which, in order to be known, requires further independent premises each unknowable until ... and there's no logical terminus, so the primary theory looks unconfirmable. This fallacy imposes an excessively stringent criterion of knowledge upon typical premises only known to philosophy (and most other disciplines) with high warrant or confidence. Mathematics alone can meet strict knowledge criteria, but that discipline relies on foundational axioms and the like. Constant wariness about this fallacy makes philosophy resort to intuitions and certainties, but those are (usually) unnecessary defenses. This fallacy does not rescue "infinite regress" problems for philosophical theories. Where a philosophical argument postulates a mode of explanation, but that mode equally applies to a premise (the "but what made God?" question), then the ad hoc halting of explanation ("God needs no cause") makes an arbitrary modification to its sort of explanation ("so let nature need no cause!"). The remedy to the infinite regress modifies that troublesome mode of explanation.

The Obscuring the Question Fallacy – the misplaced confidence placed in an argument for a philosophical position which has a premise which would be unknowable if the argument's conclusion was credible. An argument with a premise left in that conclusion-conditioned unknowability might be valid but it must be unsound and logically unacceptable. Apart from that conclusion, the troublesome premise may be knowable by other empirical or rational methods; it is the argument that fallaciously obscures the question and hence obscures its own conclusion in the process. Thus, if the argument's conclusion is credible, it cannot be credible, so it was never credible. Similar to the fallacy of Begging the Question, where an illicit dependency relation pertains between an argument's conclusion and a premise, this fallacy's illicit undermining relation instead renders a premise unconfirmable for anyone. A simplistic version of Kant's transcendental argument commits this Obscuring the Question fallacy: percepts are too chaotic by themselves for knowledge; cognition's non-empirical order upon them yields knowledge; so all knowledge requires non-empirical cognition. However, by that conclusion no percept is knowable so their existence goes unknown and cognition has no identifiable work to perform upon non-existent matters, so this transcendental argument is rendered pointless.

The Categorical Reality Fallacy – the mistaken credibility assigned to a philosophical position justified mainly in terms of categorical, hypothetical, and disjunctive syllogisms, and/or mathematical axioms and formulas. From a skeptical or empirical standpoint, philosophical positions so reliant on those foundations fail to establish any metaphysical, ontological, or even existential propositions and cannot be about something demonstrably real. Even if those rationalist foundations end up appealing to a priori, linguistic, conceptual, or intuitive "knowledge"

or truth, nothing about actuality or reality follows. Logically, the dispute can be presented as follows: (1) every categorical syllogism commits the fallacy of four terms until empirically proven otherwise; (2) every disjunctive syllogism commits the fallacy of false dichotomy until empirically proven otherwise; (3) every hypothetical syllogism lacks a key term referring to something real until empirically shown otherwise; and (4) anything of pure mathematics lacks ontological implication and meaning until some terms are assigned confirmable existential reference. Avoiding this fallacy to empiricism's satisfaction compels a philosophical position or theory to be more reliant on replicable empirical observation and inductive-abductive inquiries of science.

The Universal Ignorance Fallacy: an unacceptable argument that proceeds from a premised claim about a universal ignorance to a conclusion asserting a kind of certain knowledge. Like the basic fallacy of argument from ignorance, nothing about universal knowledge follows from universal ignorance. Even if universal skepticism towards one kind of knowledge could be established, that cannot imply that some other sort of universal knowledge must be available. For example, the "Brain in a Vat" argument for idealism (we only know our phenomenal consciousness) suffers from this fallacy: even supposing that knowledge of the real world is denied to us, that cannot imply that we must have another sort of knowledge. Logically, the option of complete skepticism remains available, since "there is no external world" deprives "there is an internal world" of any sense for lack of a thinkable contrary, and hence a phenomenal realm left to us would be neither known nor dividable into "outer" and "inner." Put another way, knowledge of an inner reality depends on knowledge of an outer reality, and the metaphysical options of phenomenalism and dualism remain open.

The Universal Relativism Fallacy – the lack of credibility to a conclusion that everything is relative to appearances when considering a hypothetical premise that a universal change would be undetectable. As a variation of the Incoherency Fallacy, any credibility lent to the conclusion erases meaningfulness for a key premise. Admirers of this sort of argument wrongly suppose that the utter universality of the hypothetical scenario insulates it from questioning its meaningfulness. Consider an example trying to support phenomenalism or idealism: "Suppose everything has really doubled in size; but such a universal change would be indiscernible; so there's no meaningful sense for anything having a real size." The acceptance of the idea that "no thing has a real size" indeed denies sense to the premise's suggestion that "everything has really doubled in size" but that only implies that this argument cannot be valid and never judged to be sound with an unverifiably meaningless premise. "Things have a real size" remains a logical and ontological possibility. The anti-realist presumes that the argument's senseless premise proves that "nothing has a real size" but logically the only result is that the notion of "everything has doubled in size" is devoid of even hypothetical sense and cannot lend any plausibility to the conclusion. In effect, the anti-realist needs to beg the whole question of "things really don't have size" to maintain consistency between the premise and the conclusion.

Against the Philosophers Fallacies

Academics of other fields looking for clinching arguments to win disciplinary conflicts sometimes get too clever by thinking to borrow unimpeachable epistemic principles without taking due care with their proper application. Relativism, fallibilism, and skepticism serve as tools for sharp epistemological theorizing. However, when they get waved around in disciplinary contests, these 'isms' they are blunt clubs hurting the wielder more than the target, especially when aimed at Philosophy.

The Absolute Relativism Fallacy – the view that there is a demonstrable denial of any universal method or manner of reasoning. This fallacy tends to show up in academia when one discipline feels threatened by another discipline's encroachment or aggrandizement. Philosophy (usually) stays away from this fallacy. Deductively, the view is inconsistent (without reason's universality there is no valid demonstration) and claiming to know that there's no one thing to be known betrays the point of relativism. Inductively, a universal methodology doesn't disappear simply from social disinterest. The observation that no manner of reasoning yet receives universal

human recognition avoids this absolute relativism fallacy, but as a normative assertion ("there couldn't be any universal reason") it commits the argument from ignorance fallacy. Pragmatically, universally legitimate methodologies may be developing and improving over time along with cumulative knowledge acquisition. One need not deny universal reason in order to reject a "finality" to knowledge.

The Relative Relativism Fallacy – the proposal that the divergent plurality of cultural information (lessons and lore and didactic learning and so on) embedded within each human society all deserve classification equally as bodies of 'knowledge'. This global leveling of knowledge may deter epistemic imperialism, but it requires a self-contradiction: a broad categorization for 'knowledge' relies on some trans-cultural criterial standard unrecognized by most cultures. Philosophy itself avoids this fallacy. If relativism is relatively correct, there's no way to know what could count as knowledge so broadly. Leveling 'knowledge' would instead require abandoning the notion itself and embracing incommensurable pluralism.

The Truth of Skepticism Fallacy – the assertion that the inaccessibility of truth cannot be rightly denied. To avoid rational inconsistency, complete skepticism should not be asserted as a truth candidate, but perhaps only offered as an attitudinal stance about belief in general. Dogmatically asserting how there's no truth, as philosophy itself knows well, betrays the point of skepticism. Global skepticism, like global relativism, cannot conclude anything about the validity or viability of universal reason, knowledge, and truth. Attacking absolutism on *truth* must take some other approach, since the denial of absolute perfect truths is compatible with affirmation of universal reasoning and global knowledge: a few legitimate modes of reasoning (e.g. prudential game theory, experimental science) can produce fallible knowledge without denying overall epistemic pluralism.

The Trolley Dilemma Fallacy – the predilection for interpreting a highly artificial dilemma never realistically encountered as representative of a simplistic ordinary problem anyone can easily resolve. On this fallacy, whatever sorts of thinking are applied for the artificed case are assumed to be the same in all minds for ordinary situations. Thus, considering whether to hurt one person's feelings to aid the team must be cognitively akin to judging whether to kill one to save others from a runaway trolley. The fallacy is not committed by philosophical ethics, but by those compelling moral psychology to empirical grounds on behalf of ethical theories. Instead of letting moral psychology ask plain unforced questions (but those results can't validate any one ethics), this fallacy selects a judgment from an ethical theory and expects unprepared people to affirm that judgment in an abstract case artificed by that same ethical theory.

The Moral Superiority Fallacy – the predilection for emphasizing how immoral societies have been in the past in order to represent present-day culture or civilization as morally righteous and above reproach. This fallacy of comparison can get completely circular by emphasizing how we know that past societies were so wrong and evil because they fall far short of current moral standards. It is not necessary to counter this fallacious argument with moral or cultural relativism. Righteousness may be merited, and harshly judging past evils comes with assured ethical progress. So long as there is genuine ethical progress, that capacity to judge also falls on contemporary times too, since there is further ethical and social progress to achieve into the future. The Moral Superiority fallacy can operate as an apologetics for halting social and ethical progress at some arbitrary point that lets living generations feel comfortable. Elites – of wealth, status, and so on – appeal to this fallacy to dismiss an urgency for enlarging rights or transforming politics.

The Naturalizing Duty Fallacy – the predilection for interpreting judgments and actions of ordinary people to be determinative of universal moral ideals. Naturalizing ethics has always been hazardous, whether it is asserted that all people "naturally" seek security, desire power, want esteem, pursue happiness, chase love, and so on. Philosophical ethics knows better; the "Is-Ought" fallacy forbids conclusions about obligations just from statements of opinion or fact. Further, regulative duties cannot be derived from "natural-enough" norms. What people must do to be ethical has only loose relations with whatever people happen to do to feel moral. Moral psychology independently investigates a wide variety of self-oriented and socially cognitive operations combining

to yield a range of moral frameworks and dispositions. Whether labeled as moral "virtues," "sensibilities," "intuitions," "foundations" and so on, none of them separately or all of them together warrant any single ethical theory or its particular moral ideals.

The Ideologized Nature Fallacy – the predilection for assigning to an ideological standpoint the responsibility for interpreting and theorizing about nature. Basically, this fault is the basic Weak Analogy fallacy magnified to universal scale. Philosophy of science knows better. This fallacy requires that ideal relations of the human world – such as domination (or independence), conflict (or harmony), self-interest (or equality), etc. – must be projected onto real relations in the natural world. This fallacy is not the unoriginal observation that scientific fields can harbor prejudices, or fail to acknowledge pluralistic views; such deviances are exposable by comparison with non-ideological scientific methodologies. This fallacy instead denies all "objective" methodologies as spurious, and demands that righteous ideology must alone comprehend the true ways of nature.

Category 3: HISTORY

"History will be kind to me, for I intend to write it."
– attrib. to Winston Churchill

History must satisfy standards widely applicable to any empirical investigation and reporting of discoveries. The historical sciences – not just History but also archaeology, anthropology, linguistics, philology, economics, e.g. – avoid fallacious reasoning by meeting high methodological standards. Although the historical sciences share the same disciplined goal of objectivity, History maintains its own disciplinary objectives enabling it to reach towards that ideal of objectivity.

Other fallacies can be committed besides methodological errors. Misusing historical information for social, religious, or political purposes is a tactic that resorts to deceptive rhetoric, subtle propaganda, or outright fallacious thinking. The first set of historical fallacies misunderstand the nature of history and historical explanation.

The Historical Lesson Fallacy – an historical account of a postulated "past era" imposing a preferred order upon an imagined sequence down to the present. The motivation for this designed history may be to critique the present, endorse the present, or support future reform.

The Pragmatic History Fallacy – an historical account crafted to deliver a wise message or prudent lesson about problems of present times.

The Whiggish History Fallacy – an approach to history warped by prominent themes of sure progress towards whatever is deemed best about current times.

The Pessimistic History Fallacy – an approach to history distorted by an emphasis on the inherent folly of humans and their flawed works.

The Pivotal History Fallacy – an approach to recent history centering on a crucial event picked out as a "turning point" demarcating a world that is materially or spiritually very different from anything prior to that pivot.

The Factual Fatalism Fallacy – an approach to history asserting that events that did happen had to have been the only realistic course of events for that time because, after all, they were the real events that did happen.

The Historical Pattern Fallacy – an approach to history privileging the discernment of rigid patterns in the course of contingent events and inferring that particular events were necessities due to that rigid pattern.

The Fortunate Beginnings Fallacy – an approach to history supposing a previous age's similarity to our times takes the easier explanatory course. However, that approach renders mysterious why major social or political revolutions prior to our times would have ever been needed.

The Narration or Causation Fallacy – the expectation that history must rely on agent-level narration to explain a period's course of events to avoid reducing that period to causally mechanistic sequences devoid of effective human decision. However, investigatory history can combine modes of explanation in better complex accounts.

The next set of fallacies confuse history proper with social history or political history, demanding that History of the past few decades or centuries satisfy concerns about worthy subjects, deserving peoples, or deplorable injustices.

The Big Wave History Fallacy – an approach to recent history that starts with a empirical feature of a short duration, adds embellishment to perceive a longer period's tendency, and exaggerates further to conclude with a vast generalization. Example: a social historian observes a decade's trend to generalize about a generation's direction and then envision a nation's destiny.

The Fortunate Turns Fallacy – an approach to history depicting major twists and turns of history as fortunate results, when they contributed to bringing about our own fair times.

The Historical Legacy Fallacy – an approach to distant history privileging a special epoch or period to which the rest of history is indebted, promising inclusion (without empirical merit) of things prized today.

The Corroborator's History Fallacy – an approach to distant history privileging a set of later writers and texts that repeat the same account of an earlier era, seemingly to lend confirmations. The likelihood of copying among each other, or all echoing a single dubious source, is far more probable.

The Democratic History Fallacy – an approach to recent history demanding that individualistic perspectives on past segments of society are necessary to protect today's underclasses, presently combat domination, and challenge "establishment" and "elite" history.

The Intriguing History Fallacy – an approach to recent history centering on matters of short-term social and cultural interest to satisfy today's populations and their shorter attention spans.

The Pluralistic History Fallacy – an approach to historical periods requiring the depiction of people as we today prefer to view and value them, such as omitting shameful or unethical conduct, or inserting popular diversity where it didn't exist then.

The Social Agency Fallacy – an approach to historical periods only interested in depicting social activity in terms of plurality, diversity, differences of judgment and motivation, individualistic choice, and personal agency. A depiction of social groups of the past as prioritizing commonality, conformity, continuity, and tradition must be inaccurate, by this fallacy, since 'true' agency is individualistic and divergent. However, History usually finds that group agency is typically preferred and proven against other powers (such as elites). Superimposing today's democratic values onto past peoples distorts history into popular social history.

<u>Against the Historian fallacies</u>

“History is a jangle of accidents, blunders, surprises and absurdities, and so is our knowledge of it, but if we are to report it at all we must impose some order upon it.”
– Henry Steele Commager, American historian

Attacking history itself as an academic enterprise may resort to unfair strategies. Attempting to depict the discipline of history as entirely deceived about its historical knowledge can commit academic fallacies. These fallacies unfairly disparage the entire discipline’s capacity to attain anything worthy of disciplined knowledge.

The Worldview History Fallacy – claiming that a domineering worldview – such a philosophical cosmology, a theological axiology, or an ethical theory – is suspiciously dictating a discipline’s historical inquiries.

The Perfect Objectivity Fallacy – claiming that history’s inability to attain complete objectivity about the past leaves all of history’s methodical efforts stuck in subjectivity.

The Biographical History Fallacy – claiming that all history amounts to just narrative biography, hagiography, or even autobiography as the basic type of primary self- and sense-making enterprise.

The Social History Fallacy – claiming that all history only consists of this or that society’s own version of thinkable and intelligible history as incorporated within its unique group-understanding.

The Primordial History Fallacy – claiming that history is fundamentally about the contemporary quest for origins, and any theories about past beginnings are just wish-fulfillments serving current desires for legitimizations.

The Staging History Fallacy – claiming that history’s interest in a past “stage” (or “era”, “period”, and so on) amounts only to a contemporary staging for historical dramatization rather than any discovery about the actual past.

The Monumental History Fallacy – claiming that history’s exposition of an important figure, event, period, or innovation amounts to erecting a monument of permanent commemoration to be revered and imitated. A current social or political movement can appeal to such monumental history (as Nietzsche put it) for an arch-conservative agenda or an anti-culture rejection of contemporary creativity.

The History of History Fallacy – the expectation imposed on history that the history of a past matter is nothing but the history of the idea of that matter. Thus, to study the “Viking Conquests” only requires the study of researches conducted after the “Viking Conquests” were initially imagined. This fallacy ignores how empirically rigorous historiography isn’t methodologically collapsible into just the history of ideas.

The Factual Contingency Fallacy – the expectation imposed on history that supposes that the only reason why something in the past is significant is because later historians have deemed it so. Example: “St Peter’s Basilica was placed on the UNESCO World Heritage list because this Vatican cathedral was valued by 20th century cultural historians.” (Not because of its 16th Century impact for Catholicism?)

The Precursor in History Fallacy – the expectation that history must be inferring from “A came before B” and “B is different from A” to the judgment that “A should be viewed as ‘Pre-B’.” History already knows how whatever was happening before B isn’t thereby a precursor on the way towards B or a premature version of B. For example, the way that a mythic cosmology was around before a scientific cosmology doesn’t convert that myth into a “prescientific worldview.” Genuine precursors according to valid History must exhibit more than chronological or geographical associations.

The Chronocentrism Fallacy – the expectation that history must apply contemporary norms to its subject matter in order to get past times "right" or else risk excusing or overlooking past evils and injustices. Like the folly of ethnocentrism in social history or anthropology, chronocentrism dogmatically applies today's moralizing as the absolute ethical standard for all times. The axiomatic moral inferiority of the past, ironically enough, will someday be applied to our era too; it is wiser to accommodate some ethical relativism in history.

The Ethics of History Fallacy – the expectation that the history of events now deemed evil must not include explanations that refer to an actor's motivations, on the grounds that "the agent had reasons to do A" and "the agent did evil by doing A" puts the historian into a contradiction. To see the alleged contradiction, insert the tacit principle "it is never reasonable to do evil." Rationalizing evil runs counter to the ethics of history by this fallacy. This fallacy is dismissed with the point that our ethical assessment of an agent cannot be a proper part of an explanatory account of their historical deeds. Many people have their reasons for doing whatever we later judge to be evil; if they didn't act on *their* reasons then they couldn't be responsible agents and hence not evil people. Understanding others' motivating reasons does not equate to justifying them.

The Social Justice Fallacy – the expectation that historical narrations should center on the powerless in a society to remedy the injustice of historical explanations ignoring those not participating. This fallacy imposes a subjective ethics on explanatory history, rather than compelling history to get 'real'. To see the fallacy better, note how social history's sympathy for the silenced won't reveal potency (for they must be oppressed) but confirm their pitiable subordinacy. Avoiding the fallacy allows both kinds of history to pursue their separate objectives.

The Chronology and Causality Fallacy – claiming that the historical arrangement of events into a chronological order has little relevance to proper historical explanations. Superficially, this fallacy appears to be a corollary of "correlation does not by itself imply causation" as an inductive fallacy. However, discerning causation in human events does require careful ordering: Y won't be historically explained in any manner without some prior Xs situated to contribute to Y. The fallacy wrongly disparages an essential step within historical hypothesis and explanation.

The Archaeology for Chronology Fallacy – claiming that the chronological ordering of ancient history must follow material evidence (of archaeology, local geography, and genetics, say) rather than writings or oral traditions. This fallacy, besides hastily denigrating historical memories of peoples as fable and myth, is overestimating the explanatory power of material culture. Artifactual and fieldwork evidence only accumulates into descriptions of *how* the past happened, unable to inflate into accounts of *what* happened in the past. History and anthropology have resources for cross-interrogating and integrating information from human records, human remains, and human activities.

The Social Consistency Fallacy – claiming that an historical account of past subject matter S must descriptively talk about S in the same terms that S is earnestly conducted at the present time. From a social standpoint, we understood S as it happens today and not at some other time when we weren't alive; hence history cannot speak of S differently without abandoning S itself and changing the subject. For example, per this fallacy, if history wants to speak of "religious conversions" occurring in ancient times, the historian must first select a current sort of religion conversion people now experience as the model. This fallacy unfairly delimits the historian to studying the past mainly in terms of the present.

The Social Inconsistency Fallacy – claiming that an historical account of past subject matter S must not transport a current description of S directly back for projection onto past times. From a social standpoint, it makes no sense that we could accurately understand a long-past society simply in present-day terms. This fallacy, while sagely cautioning against simplistic historical projections, unfairly prohibits the historian from postulating some similarities, analogs, and continuities across different human societies.

Category 4: SOCIOLOGY–ANTHROPOLOGY

“In the natural sciences (we are told) each succeeding generation stands on the shoulders of those that have gone before, while in the social sciences, each generation steps on the faces of its predecessors.” – attr. to David Zeaman

The intersection of social theory with historical studies provides fertile grounds for accusations of fallacious reasoning. The last two fallacies in the previous section illustrate how dilemmas surface for historians of the past and social historians today. The methodological remedy lies with careful conceptual constructions of terminology for descriptions and ascriptions of human conduct, prepared for empirical confirmation or disconfirmation. Still, cross-disciplinary misunderstandings worsen with academic fallacies.

The Cumulative Progress Fallacy – mistakenly presuming that past research had methods and information absorbed (or replaced) by recent research, so it can be safely ignored. This fallacy forgets how insights into human relations and organizations can emerge in any age, with their perspective and wisdom undimmed by mere time. (Plato and Confucius still teach us about carefully observing humanity.) At the least, this fallacy allows “new” approaches to only restate or repackage established theories, now half-recalled or forgotten. At worst, researchers get indebted to paradigms from other disciplines, especially philosophy, theology, economics, and politics. Unlike natural or life sciences, social sciences do not gradually “perfect” their methods of study, and only improve particular methodologies where they are applied to narrow issues. Excess narrowness to multiplying methodologies is responsible for another fallacy, the Novelty Fetish fallacy.

The Novelty Fetish Fallacy – mistakenly assuming that a narrow research program adeptly overthrows much of past social theorizing or sociological theory simply because it enjoys a fresh reputation for novelty or academic popularity. Perhaps a micro-theory gets enthusiastic about its driving motivation or end goal of illuminating some corner of human behavior, but misrepresenting or ignoring previous research is unwise in the long run. Where academia rewards contrararian “originality” over proven cumulativity, and a field or sub-field does not discipline research accordingly, the fetishization of mere originality can fragment or even discredit the whole discipline. The current problem of irreproducible results is one manifestation. The drifts of sociology into social history or political critique (or both) is another manifestation.

A fertile ground for fallacies is the notion of “identity” which points in opposite directions: how a person can be individuated, and how an individual fits within a group. That ambiguity, if poorly managed by clear academic terminology, allows slips from one meaning to another. A manageable way to discriminate types of identity can include:

You are an “X” if and only if you should prefer others to regard you as an “X.” [ideal identity]
You are an “X” if and only if you prefer others to regard you as an “X.” [valued identity]
You are an “X” if and only if you openly agree that you are an “X.” [admitted identity]
You are an “X” if and only if you sincerely think of yourself as an “X.” [self identity]
You are an “X” if and only if X means Y to society and you think of yourself as Y. [social identity]
You are an “X” if and only if X means Y by definition and you happen to fit Y. [categorical identity]

Poor clarifications about ascertaining identities leads to fallacies. For example:

The Identity Misidentification Fallacy – mistakenly inferring that a person fits one type of identity only on the grounds that a different type of identity has been confirmed for this person. Mixing up identities, conflating two identities, or taking one identity to be the sure marker of another identity, is always an invalid inference. This fallacy often occurs with demographic surveying, where questions are designed to empirically ascertain one sort of

identity but the survey draws conclusions about another sort of identity. For example, asking people "Would you describe yourself as an atheist?" elicits admitted identity, but the survey isn't yet counting the number of people not believing in God (many nonbelievers refuse the label of 'atheist'), or counting antireligious secular people (many 'atheists' aren't opposed to religion).

The 'Ism' from Identity Fallacy – mistakenly inferring the number of people endorsing an "___ism" standpoint simply from classifying people by the related identity. This fallacy mixes up social classifications with personal identities. For example, the group of people advancing vegetarianism is smaller than all vegetarians (most think just about their own diets). Similarly, the demographic segment of secular people (not being religious) has little to do with the social potency of secularism, since most secular people have no interest in secularism. This fallacy was inherited from social theory's interest in gauging a religion's size, a political party's popularity, or a cultural movement's potency, where identity and adherence get connected. The reverse fallacy, the "sociologist's fallacy" attributes a social categorization for a person to that person's own self-conception. Pointing to admitted identities or social identities as if personal identities have been revealed, or vice-versa, is never methodologically sound and can lead social scientists into inadvertently reifying and reinforcing stereotypes.

More fallacies endemic to the history of sociology and anthropology, and common enough to this day, revolves around the much-debated idea of "human nature." Human nature by itself is a topic worthy of vigorous interdisciplinary study and debate, so its theoretical status rightly stays in flux and cannot be prematurely dumped by "Against the Scholar" fallacies (see above). Larger academic fallacies to be avoided as a dead-ends result from trying to draw ethical conclusions from either affirming or rejecting "human nature."

The Essentializing Humans Fallacy – the presumption that determining "human nature" with a set of descriptive criteria accomplishes the goal of assigning equal normative worth to each human. Clearly stated, this fallacy exhibits its own inconsistency error: with several criteria required, any human lacking just one gets unjustly deemed as sub-human. On the other hand, any short list of criteria will get too inclusive, assigning equal worth to the unequal (such as zygotes, crows, artificial intelligence, and so on). To avoid this fallacy, admirers of the ideal of human equality should appeal to human ideals on ethical-political grounds.

The Denaturing Humanity Fallacy – the presumption that eliminating "human nature" as a category accomplishes the goal of equalizing the worth of all humanity. Clearly stated, this fallacy exhibits its own self-contradictory error: without "human" as a classification there is no equalizing norm. Supposing that no criterial definition of "the human" pertains, so there is no such thing as the human species, and only various sorts of "human-ish" apes are living on the planet. To re-group them into "humanity" isn't conceivable without a shared human nature – thereby allowing groupings into distinct Homo variations (or "races" as racism prefers). Without a discriminating class for all humanity, discriminatory sub-categories abound, and discriminations, rankings, and segregations easily follow, and so that goal of equalizing something unreal like 'humanity' cannot be biologically and socially achievable.

<u>Against the Social Theorist Fallacies</u>

The Translation Manual Fallacy – the presumption that one word from Language A must match one word in Language B, or else the speakers of language B don't have a conception of A at all. Example: "There's no single word that conveys the English word 'painting' in Chinese Mandarin, so the Chinese people don't think about paintings and there's no such thing as Chinese painting." As any dictionary compiler (and social theorist) understands, a multi-word term, compound words, or a phrase can capture many common ideas. This fallacy egregiously distorts the understanding of social kinds more than natural kinds, such as roles in social relationships. Where many languages lack a single word for "brother" (including Chinese) it shouldn't abruptly concluded that "brother" cannot be a humanity-wide idea or relation for social theory to study.

The Bad Terminology Fallacy – construing a term long-used by a discipline as meaning only its negative connotation that got attached by society rather than the discipline. It is not infrequent that a discipline's neologism gets invented to avoid conflation with older biased words, but that neologism inevitably ages and enters common discourse, where it picks up the same biased meaning. While the discipline continues to use the term (with a neutral academic meaning), other disciplines or the wider public accuse this discipline of promoting regrettable bias. The trail of neologisms abandoned one after another accumulates into a lexicon of shame, until at last the discipline hits upon a term borrowed from another language and/or crafted to be unpronounceable. For example, over two hundred years, the sequence of words such as 'primitive' (meaning "of prime origin"), 'primeval', 'native', 'archaic', 'aboriginal', and 'indigenous' have failed to outpace racist usage; perhaps 'autochthonic' might avoid the same fate. Psychology will never have a neutral word to replace the earlier neologisms of 'retarded', 'imbecile', and 'moron' no matter how intellectual disability gets labeled. Sociology spoke of 'vagrants', 'transients', and then the 'homeless', but 'unhoused' or 'unsheltered' lifts blame off them. In time however, any label within public hearing soon acquires that same negativity stigma.

The Inessential Criterion Fallacy – rejecting a constructed definition for a feature F of society on the grounds that a criterion C for F can't be essential since there are cases meeting C but they don't look like F. This fallacy demands that a well-defined F covers all true cases, whereas a compositional definition only needs to include contributing criteria. For example, there are some people of "high status" in a society without great wealth, but excluding "wealth" as not contributory to "high status" makes no sense. A non-fallacious objection only applies to a particular society where wealthy people rarely have high status. This fallacy mistakenly tries to "disprove" a substantive definition constructed from contributory criteria with just an essentialist abstraction. The life sciences and social sciences utilize many theoretical conceptions defined operationally or functionally through a compound of contributory factors without any single criterion carrying decisive weight. For example, a "chiefdom" may be defined as a political structure headed by a single person, often from lineage but usually earned, holding full-time leadership (with elders) over clan or tribal matters that mainly concern resources, conflicts, and perhaps rituals.

The Time-Stamped Evidence Fallacy – claiming that the dating for sociocultural practice or institution cannot be placed prior to the earliest extant evidence of that matter. Such strict skepticism towards an earlier dating makes two unwarranted assumptions of its own: (1) its invention or establishment would promptly generate ample lasting evidence; and (2) a complex social or cultural feature needs no period for development or wide adoption.

The Popular Paradigms Fallacy – presuming that theoretical paradigms presently dominant within academia can be attributed to the popular thoughts or common beliefs of a culture or nation. By this fallacy, not only could an entire civilization be caricatured (e.g. "the West has long been so naturalistic") but other cultures get classified too (e.g. "non-Western cultures are quite non-naturalistic"). A related fallacy presumes that the dominant paradigm in one discipline must also be dominant in related disciplines too. For example, "While the sciences in the West have been becoming very naturalistic, anthropology has been imposing naturalism upon its study of world cultures."

The Universal Culture Fallacy – presuming that a welcome feature of many contemporary societies must not fail to apply to every culture past and present, to alleviate ethnic disparagement. This fallacy bypasses disciplined terminology and empirical investigation, however. For example, crediting most any chiefdom, tribal nation, or non-autocratic polity with democratic systems asks for a distortion of that civic institution beyond recognition. Another illustration comes from the celebration of cuisines from around the world. That enjoyment of heritages isn't fallacious, but its too generous to expect every society past and present to have its own cuisine of culinary mastery and fine dining. Nowadays most any traditional foods could be elevated with supplemental technique to the level of a cuisine, but that's no evidence for its prior indigenous existence. This fallacy's motive of universalization goes far beyond the knowledge of history or anthropology, disciplines only observing some complex societies developing refined cuisines for aesthetic enjoyment.

The Category Cage Fallacy – the prejudice that concludes, just from different cultures deploying categories (for spatiality, temporality, causality, identity, agency, and so on) in varying ways, that a particular society can only understand the world (its world?) through its own versions. This fallacy displays a prejudice of categorical superiority for the philosophical intellect able to survey all the variations. (Would anthropologists be free from categories themselves?) This fallacy also displays a meta-cultural superiority for the "most advanced society" having passed through inferior categorical stages (e.g. by attaining final 'scientific' categories). Avoiding this fallacy only requires a return to sociological common sense: any society's curious minds can appreciate differing categories and even borrow and blend them. Social history confirms that periods of cultural creativity can happen where conditions favor intellectual exchanges.

The Singular Culture Fallacy – the preconception that a social feature first noted in one culture cannot be found in any other culture, since that feature bore its name and meaning uniquely within that culture. When extended to many social features, such a preconception licenses the mistaken notion that social authenticity requires cultural uniqueness. This fallacy mistakenly equates a nominal word of one language with a conceptual term definable for extension to other cultures sharing that feature. The disciplinary borrowing of a word (for an equivalent is lacking) for its conversion into a conceptual term having an empirical, operational, or theoretical definition commits no fallacy, especially if that defined feature is both paradigmatic and confirmable across other societies. A notable example is "the shaman" of Siberia, but no exclusivity ever pertained, since various ethnic and language groups across northern Eurasia exhibited this shamanistic figure; besides, the word 'shaman' itself was a borrowing from the older Buddhist word 'saman'.

The Immoral Explanation Fallacy – the preconception that social history's examination of conditions around some bad conduct of group G (as uncivil, deviant, illicit, immoral, criminal, whatever) amounts to a contextual explanation of G that immorally excuses or justifies such badness. Following this fallacy lets another moralizing discipline (or a moralistic public) condemn such academic efforts as an immoral "understanding" of that bad group. Academically, this is willful ignorance in action by preferring causes of "bad" behavior to stay mysterious rather than implicating social responsibility.

The Unjust Categorization Fallacy – construing a academic categorization for a socio-political injustice as a case of a prejudicial injustice against an innocent party. A variety of definitions are applied by the social sciences to classify large-scale dominations, oppressions, destructions, and eradications. Examples would be "feudalism," "apartheid," "colonialism," "aggressive war," "ethnic cleansing," and "genocide." The fallacy takes such a classification to illegitimately accuse an innocent party who is "actually" enacting custom, justice, reclamation, or a just war. Disciplines can ignore this fallacy as a distraction; academics apply validated classifications having stable criteria more objective than propaganda from partisan participants. A corollary fallacy, the Resistance is Futile fallacy, hears words about resistance – e.g. antipatriarchy, antiracism, anticolonialism, liberationism, separatism, marxism – as hostile terms of uncivil and violent agents, and hence to be banished from civil discourse. Insulating power and privilege away from free speech criticism and accountability is the actual agenda of these two fallacies.

Category 5: PSYCHOLOGY

Psychology, like logic, can detect innumerable sorts of erroneous thinking and judgment. Here, we are discussing academic fallacies that scholars may commit in their disciplinary discourse. Social psychology must circumvent various common fallacies about classifications and characterizations. Statistical missteps (such as the base rate and ecological fallacies) along with heuristic biases can easily get inflated by scholarly minds into fallacies about inapt categorizing and hasty stereotyping. Individual and abnormal psychology are not immune from fallacious inferences either. Special care must be taken where 'normal' and 'normally', 'ordinary" and 'ordinarily', and 'healthy' and 'disorder', appear in reasoning and arguments because they are inherently equivocal about

compressing factual and normative meaning into a single word. Beyond ordinary fallacies of invalid reasoning, a few fallacies can be detected across psychological theorizing.

The Psychologist's Fallacy – the assumption made by a psychologist who expects the analyzed matters described by folk language or theorizing about mentality/cognition to be prominent in a subject's own naive experience or personal self-conception. William James noted this fallacy's pervasiveness when psychology was emerging as a scientific field, as researchers were formulating theoretical constructs to explain perception, attention, thought (etc.), and then wrongly claiming verifications from people's own subjective consciousness. This fallacy can still be committed when researchers aren't cautious about describing lived conscious experience too much in terms of disciplinary terminology.

The Pure Emotion Fallacy – the assumption that most emotions can arrive in discrete and defined modes without cognitive or judgmental aspects. A lingering dogma from faculty psychology, long discredited, see emotional arousals as thoughtless responses to incitements. Careful studies now show how emotional states solicit much informational and social cognition before shaping a behavioral expression as a particular emotion. Since related emotions recruit similar cognitive resources, little separateness could be expected, and any distinctiveness to facial behavior (for example) varies across cultures that mold emotions. Anger, for example, easily blends with sadness, hate, or desire, and intensity depends on judging the circumstances and target of our irritation (is that person a real threat, or just a child?). Humans rely heavily on complex judgmental emotions for expressive communication and social interaction.

The Subsistent Self Fallacy – the presumption that there could be no association or continuity among perceptions, ideas, thoughts (and so on) unless a substantial "self" attends them for binding and blending. The fallacy is exposed by asking if this self or "me" (or "I" or ego, etc.) is phenomenally present as well. If so, then its activity is integrally relational rather than separately substantive; if not, its postulation lacks necessity (that relational self suffices) as well as any evidence. Despite its popularity with Cartesian, Kantian, Hindu, and phenomenological philosophies, the way that this fallacy facilitates dualism or even idealism removes its validity for psychology. The corollary fallacy, that any animal mentality must have some consciousness to accompany any degree of sensitivity and sentience, can be similarly ignored by biology. Neither reflex action, proprioception, nor sensation demands a phenomenal 'center'.

The Hasty Reductionism Fallacy – the presumption that an evolutionary explanation for a complex psychological ability demands a strictly genetic basis (only genes "evolve") and hence requires a tightly mechanistic and deterministic view of that ability. To discharge the fallacy against evolution, point out how higher mental abilities are neither deterministic (too flexible) nor mechanistic (too holistic). The fallacy wrongly presumes that an evolutionary account of X requires a singular gene Y, when evolutionary biology recognizes that large ensembles of DNA-RNA orchestration permit any phenotypic/behavioral trait. Likewise, the learnability of a complex behavior is itself a trait that had to evolve, but this fallacy presumes a false dichotomy of "either evolved, or learned."

The Narrow Functionalist Fallacy – the assumption that naming a particular thinking ability displayed under set performative conditions is the same as discriminating a specific cognitive operation permitting that performance. Mechanistic models of mind (including cybernetics, representationalism, computationalism, connectionism) encourage this fallacy; organicist models resist postulating singular states or single-purpose processes. Any model should be discerning robust mental processes operating under a wide range of performative tasks, as those would have had evolutionary origins and pervasive utilities.

The Passive Observation Fallacy – the presumption that naïve or immediate perception is prior to – temporally, conceptually, and logically – its meaning and salience for acting. This fallacy lingers from classical empiricism and its choice from the ancient false dichotomy of "either senses originate information, or minds impose information." Animal psychology finds that meaningful perception embodies the ongoing activity of the organism, so the circuit

is “searching motions, sensory orientation, meaningful perception, actionable information, modification of activity; and back to searching motions.” Human psychology is little different, as observation must arise from inquisitive activity, and the way that deliberations seek relevant observations also discredits this fallacy. Furthermore, no scientific observation bears information unless created from investigative or experimental practices.

The Phenomenalist Fallacy – the assumption that a word for a perceived quality (a name of a color, a sound, a taste, and so on) bears one essential meaning denoting a unique subjective phenomenon. By the fallacy, for example, the word “blue” can only mean that subjectively experienced phenomenon of ‘blueness’ identical for everyone. The fallacy is exposed by considering the inverted-color thought experiment: a hypothetical case of someone from birth who sees yellowness instead of blueness and blueness for yellowness, and so on through the spectrum. Acquiring language growing up, this person would use “blue” perfectly and indistinguishably from everyone else, evidently applying the meaning of “blue” as well as any language speaker. And, since this color inversion is empirically undetectable, many people in a population could have the same condition, implying that the common language has this word “blue” which cannot mean ‘blueness’ (many inverted people might be using “blue” for ‘yellowness’ and so on). The remedy for this fallacy is to explain meanings of words for perceived qualities in terms of the perceptual contexts for their viewing (e.g. when is a person expected to know what blue things are), because such contexts condition the meaning, not just any subjective phenomenon.

The Rationalist Fallacy – the assumption that each occurrence of the use of a concept in ordinary discourse is always identical conceptually no matter who is using that concept or when it is used. Academic discourse does refine terminology for precise and consistent usage across the community of scholars (at least within a discipline), but that precision erodes outside academia. This fallacy expects such precision where it is obviously lacking in ordinary language among typical speakers.

The Rationalization Fallacy – the assumption that a statement made by a person only states what that person sincerely believes, or matches what that person would think on their own if no one else heard about it. It is not necessary to attribute dishonesty, insincerity, or flattery to understand that what someone chooses to say gets shaped by the situation, those present, and whoever else may hear about it. Maintaining respectability and status is never set aside when matters get public. Even polling with mutual anonymity is unreliable, as people may not want to hear a genuine thought or ignorant idea even come out their own mouth.

The Cognitive Faculty Fallacy – the presumption that an adequate account of a mental or cognitive capability can (or should) entirely omit evolutionary origin, childhood development, or trained socialization. By this fallacy, the exhibition or employment of that capability can be treated as one among many “faculties” doing its own proper work, irrespective of contributing or contextual matters. For example, “perception” could be naively defined as “observing objects around us as they are” so that this faculty operates with much independence and confidence, irrespective of potential confounding factors. The fallacy is exposed through evolutionary and experimental psychology, proving how heavily conditioned any perception must be for inquisitive creatures like us.

The Does-Must Fallacy – undertaking the huge leap from (1) a population that regularly *does* an activity to the conclusion that (2) an individual *must* perform that activity well. Moral obligations cannot be derived in this way from observable generalizations. Fallacious sub-steps must be taken, especially leaps from what is statistically common to what is deviant, and from a particular deviance to a specific abnormality, and then on to a normative deficiency to be remedied with a performative duty. Example: “It is normal for the human species to breastfeed, so birthmothering without breastfeeding is abnormal, and not breastfeeding is suboptimal mothering. Any normal birthmother wants to be a good mother,
while abnormal birthmothers don’t wish to breastfeed, so therefore good mothers must be breastfeeding.”

The Biased Bias Fallacy – postulating a cognitive "bias" within human cognition merely from observing people struggling to reach a pre-established judgment derived from intellectual formulas. The fallacy infers mental deviancies where only thinking deficiencies are in evidence. The way that almost all biases are named for the testing situation shows where the real issue is located, rather than within the inner mind. This intellectualist bias against practical heuristics at most shows how mental processes are adequate for real-world situations under time constraints. It should be unsurprising that leisurely algorithmic calculations about abstract cases yield refined conclusions that are not promptly stated by untrained individuals asked to intuitively solve unfamiliar mental tasks. Most cognitive biases disappear after taking into account how human cognition uses ordinary language, handles probabilistic inference, and handles mundane matters. Training people in technical decision procedures remedies the deficiencies to ordinary thinking.

Against the Psychologist Fallacies

The Chaining Freedom Fallacy – claiming that an account from psychology (or psychiatry, or cognitive science, or neuroscience, etc.) about mental/neurological processes involved with a decision has to make it unfree. Free choices are agent-level events; internal sub-factors get identified as they facilitate agency. Only by presuming metaphysical criteria for voluntary choice or 'free will' could a description of mental activity appear to be an ascription of unfreedom. The social order around an individual can restrict agency to lower freedom; a mental disorder within cognition can disrupt agency to skew freedom. But ordinary voluntary agency is the manifestation of innumerable contributing conditions, with none in the way of willing freely.

The Genesis as Terminus Fallacy – the expectation that an account for an idea's origination among people threatens to terminate the idea's merit, so that account can be assuredly rejected. This academic fallacy inverts the mistake of the basic "genetic fallacy" (holding that a belief's truth may depend, or dissolve, upon explaining its origin). This fallacy amounts to a false dichotomy by dismissing all origin accounts of convictions, avowals, judgments (e.g. belief states) on the mere suspicion of eliminating reasons for belief in favor of causes for beliefs. A mere account of a ponderable or persuasive idea does no such thing. Academically, the conflation of reasons with causes, or the denial that reasons can have causes, are contentious views even for philosophy, and cannot be lightly presumed by other disciplines.

The Conventional Mind Fallacy – the expectation that psychology endorses the view that nothing mental/behavioral is common across humanity so something people are doing must be entirely conventional. So long as psychology avoids that simplistic "natural or conventional" dichotomy, this expectation foists an unfair fallacy onto psychology on behalf of a disciplinary or ideological agenda. The idea that infants are so pliable that any human can be habituated and happy with an artificed social and political order is more fantasy than fact. Working within constraints of natural humanity is wiser for both reformers and revolutionaries.

The Beehive Mind Fallacy – the expectation that psychology endorses the view that there is little conventional about mental life due to its inherency for humanity. Although psychology can catalog psychological capacities and behavioral capabilities across typical human activities, that is empirically and logically far from ascertaining "inherency." No doubt, humans can think in a highly social and practically collective manner, as conditions may require. However, presuming that all human psychology is essentially communal has no more psychological warrant than presuming that humans are fundamentally selfish. Neither reactionaries nor radicals can recruit psychology into quests to restore the "original" way of life.

The Nosology as Etiology Fallacy – the presumption that a psychological description of a mental-cognitive-behavioral condition amounts to a diagnostic ascription about the deeper cause responsible for that condition. The simpler fallacy of converting a label into a power – "This powder causes sleepiness due to its dormitive strength" – lost medical respect long ago. However, concerning psychological matters that reach public attention,

this popular fallacy thinks that psychology finds the real causation for what is actually only a diagnostic classification. Other inattentive disciplines may blunder into this same fallacy.

The Linguistic Psychologist Fallacy – the hasty accusation that psychology (or psychiatry) illicitly reifies words used in ordinary language about affective/mood/emotional states into actual experiences of human subjects. In fact, psychology must regularly do this, although illicit psychological reification is surely an academic issue. Naively assuming that each affective word neatly corresponds to a singular affect state across all humanity is fallacious (the Psychologist's fallacy). Expecting one language to capture in its words every affective condition for all humanity is folly as well (the Lexical Exclusivity fallacy). Relying on one language's affective words to supply all theoretical terms about affective experiences is fallacious too (the Folk Diction fallacy). However, avoiding such fallacies by inventing constructed theoretical terms to cover all humanity stays academically tidy, but fails as explanatorily vacuous, since the point to psychological explanations for moods/emotions is to explain experiences that subjects actually think they experience, and not some manufactured "state" with a meaningless (to them) label. Each individual understands themselves as undergoing experiences that they know, not some other set of unknown conditions, and a person's language does refine the range of emotions they can feel. Explanatory psychology (not just classificatory psychology) shouldn't start by telling subjects that they aren't having the particular feelings/emotions that they think they are having. Hence, psychology must match ordinary words with emotional experiences of people speaking that language (and not a made-up language). The obstacle of inter-translating affective words cannot be easily avoided, and universal simple emotions would be easily inter-translated; hard-to-translate words hence refer to language-relative refined emotions.

The Brain Normalcy Fallacy – presuming that a description of ordinary cognition by a brain that accounts for a common sort of belief amounts to a neuro-psychological explanation why individuals without such belief have deviant cognition from abnormal brains. On this pseudo-scientific fallacy, for example, atheists could get credited for extraordinary cognition (as if 'smarter') or faulted for deficient brain cognition (as if 'deviant'). That polarized interpretation exposes this fallacy's illicit inference from "a brain does" typical cognition to "a brain must" yield reasonable thinking. As the study of cognitive biases, hasty heuristics, and social susceptibility has shown, unreasonable beliefs can get instilled into ordinary human brains.

The Naturalizing is Normalizing Fallacy – the presumption that psychology's (or psychiatry's) descriptive account offering an explanation for a psychological/mental condition must automatically normalize that condition. This fallacy exaggerates the ordinary Is-Ought fallacy into an academic monster, to either deny legitimacy to psychological theorizing, or to require theorizing to conform to normative values. Sympathy towards afflicted individuals needn't erect the issue into a hazardous social category. There's no good option after risking 'normalization', whether (a) having a label for a condition just to enjoy some company, or (b) bearing the social stigma of getting labeled for a condition. Psychology cannot control society, but it can avoid normalizing its own diagnoses or designing diagnoses around social prejudices.

Category 6: THEOLOGY

In its pursuit of explaining and defending a religious standpoint, Theology risks fallacies of textual interpretation (to be averted by hermeneutics), fallacies of historical projection (to be prevented by historiography), and fallacies of social explanation (to be remedied by sociology). Scholarly arguments over fatal or fixable fallacies and their detection by other disciplines are debates belonging within Theology or Religious Studies. Some irredeemable fallacies render them undisciplined or unfair towards disciplines.

These two fallacies encourage Religious Studies to enlarge its supervision over the study of religion far beyond its proper boundaries, obstructing other disciplines such as Philosophy, History, and Sociology from their own academic study of religion.

The Invisible Religion Fallacy – the determination to interpret the way that a particular culture encourages the diffusion of religious practices throughout social activities as the determination that it is impossible to identify a religion in that culture. This fallacy is itself a study in self-refutation, since it asserts that social activities have religious aspects and then denies those aspects to be about religion. Postmodernism rightly warns against political reification, as if the culture itself treated its religion as an autonomous arena or as a regulated institution. Academic research needn't do either, despite this fallacy's warning – including so-called "secular" approaches. Disciplines can apply functional criteria and operational definitions for distinctively religious convictions and practices (such as divinations, sacrifices, rituals, prayers) in a religion. Religions need not be invisible to academic inspection, even as they are pervasively effective throughout a culture. Religious Studies of course insists that its respect for culture uniquely permits its own research into religious life and activity, but that façade is undisciplined.

The Indefinable Religion Fallacy – the determination to deny that there is any such thing as "religion" available for academic investigation on the grounds that an inquiry must first know what religion itself must be, as explicated with a categorical (genus, difference) definition. The fallacy is deployed by pointing at vast differences among sacred objects, revered places, worshipped beings (etc.) that religions deal with. The self-refutation is exposed by noticing how the only way to point at so many different religions (so there's no "religion" abstractly!) However, "no religion in general" is not logically equivalent to "no generalities to religions", and operational definitions of religion can proceed from those evident generic features and functions. The fallacy is unraveled as follows. First, a criterial definition needn't be categorical with necessary and sufficient conditions, because a criterial explication can specific a flexible set of factors with varying import and importance, without that categorical vulnerability to a case of counterexample. For example, a criterial explication of "sport" as "competitive athletics in a bounded arena with regulated implements and obstructions" can accommodate golf (scoring, course, clubs, bounds) and car racing (speed, track, cars, limits) with a broad sense and salience to those criteria. Second, a flexible set of criterial factors can be empirically discerned rather than abstractly imposed thanks to direct investigations of religious practices and activities, so Religious Studies needn't pride itself for being the only way to study "the real religiosity" of "lived religion."

The next fallacies encourage Theology to adopt speculative theories far beyond the academic resources of this discipline.

The Unique God Fallacy – the presumption that among religious traditions, each speaking of a god with supreme reverence, all of them are actually referring to a unique and singular deity. This fallacy infers joint monotheism from the insufficient evidence of disparate monolatry. Several religions practicing monolatry – mainly worshipping a high god among multiple acknowledged gods – hardly means that each religion intends to only worship the same identical god. The way that different religions name their deities differently should be a good clue, no matter that ethnocentric translators use the Western word "God" (or "Gott" etc.) every time for each name. Only a strongly monotheistic culture would presume that a generic God must be the exclusive object of religious faith.

The Mythic Assimilation Fallacy – the determination to interpret core mythic views of another religion as analogous to, or congruent with, the theologian's own religion. Finding some common religious ground is properly ecumenical; discerning common mythic themes is mythographical; proposing theological mergings is syncretically philosophical. However, this fallacy depicts the assimilating theology as more deeply primeval or divinely fundamental than academically warranted.

The World Religion Fallacy – the determination to inflate ecumenical agreement among some religions into a doctrinal convergence among the world's religions. The fallacy is exposed by noting how pursuing that goal never attains theology's intending end. Either this "world religion" amounts to a refined version of the theologian's own religion (parochialism), or it constitutes a robust version that demotes many religions as "proto" or "devolved"

faiths (exclusivism). Comparative religious studies, by avoiding this fallacy, enjoys the cooperation of philosophical anthropology and sociocultural history.

The Flimsy Naturalism Fallacy – the determination to deflate naturalism to a level sufficient for its dependency on something unnatural. Imposing a crafted definition upon 'naturalism' allows the supernaturalist to insert cracks or weak points too easily "exposed" by anything that seems intriguingly unnatural. For example, saying that 'naturalism' requires determinism or requires reductionism, and then pointing to quantum indeterminacy or unexplained consciousness, can only fallaciously infer a God. Naturalism just asks for empirical and experimental access to reality; asserting that *all* phenomena must already be scientific known is the supernaturalist's claim, not naturalism's. A similar fallacy of begging the question against naturalism starts from a flimsy definition and then depicts consciousness or mind as unnatural in order to expose naturalism's admission of the supernatural. For example, "Observers collapse quantum wave functions, so resulting particles are consciousness-dependent, and hence physics must admit how the unnatural is responsible for the natural," actually commits three fallacious steps: (a) premising that naturalism flimsily can't handle statistical causality; (b) assuming that 'consciousness' is unnatural too; and (c) forgetting that naturalism includes naturally interactive knowers within nature.

<u>Against the Theologians Fallacies</u>

Misusing theology's disciplinary resources encourages the pushing of fragile arguments aspiring to ambitions beyond reasoning's reach.

The Unique Mysticism Fallacy – the presumption that two different practices of mysticism, by reaching their respective non-conceptual and inarticulate mystical states, must be attaining the identical condition. Neither philosophy nor theology licenses this groundless presumption: not all non-conceptual, transcending, or ecstatic states must be identical. Logically, inferring unity from a lack of distinctions only applies to more informative situations. For example, Leibniz's Identity of Indiscernables applies to entities with features, and Peirce unifies conceptions bearing the same consequences. A lesson from the basic "argument from ignorance" applies here: nothing can be concluded from the absence of mystical information. Whatever one mystic is not thinking about needn't be the same as whatever another mystic is not thinking about.

The Dual Dualisms Fallacy – the inferential leap from a premised dualism about value, knowledge, mind, consciousness (etc.) to the immediate conclusion that a supernatural creator must be real. Theology has a catalog of arguments for theism, but this fallacious leap is ignorant of theology's resources. Philosophy is the main discipline for controversies over ontological or axiological dualisms. No matter whether this or that sort of dualism may be metaphysically warranted, only an amateur theologian would simply add, "So God must exist!" A presumption that minds couldn't exist without God, or only God would bother with mind, echoes a lingering dogma that souls only come from God. Plenty of metaphysical systems distinguish the mundane from the sacred, or the material from the mental (and so on) without leaving any place for a God. Even a metaphysics of Idealism can omit theism – panpsychism, personalism, and absolutism are easily non-theistic. The difficult task for theistic metaphysics is to demonstrate why a singular supreme creator must be an explanatory necessity. That theological work is suspiciously avoided by adopting this fallacy.

The Unitary Religion Fallacy – the unreasonable requirement that the sacred texts of a religion must be interpreted entirely in terms maintaining overall tight consistency. Theology does apply history, linguistics, interpretation, and hermeneutics to clarify confusing passages and prevent introduced meanings. This fallacy imposes an stricter demand for the complete unification of scripture, on the grounds that the divine would convey one overall message and one religion. This fallacy overrides theology's historical understanding of a religion's origins and lines of development, and obstructs comprehending a scripture's early meanings for followers. Proponents of this fallacy defeat their purpose; they end up far from 'originality' with a scripture only resonating

with their current times. Theology can only smile in bemusement at yet another confirmation of a living religion adapting to contemporary needs.

The Original Religion Fallacy – the unreasonable requirement that the supreme divinity (a God, e.g.) of a particular religion must be the model for an explanation of human religiosity from evolutionary psychology and anthropology. Theology itself is well aware that a major religion's Deity (such as Judaism's Yahweh, Hinduism's Indra, China's Dao) was conceived after the Stone Age so it couldn't be an "original" god. As for the oldest gods of primeval myth from indigenous peoples, no Bronze Age and Axial Age deities claim them as worthy "ancestors". This fallacy is attractive to devotees of recent Gods from recorded history who bypass older gods to find humanity's "original" religious belief from 50,000 or 100,000 years ago in some sort of deity younger than 6,000 years old. Theology should renounce this new mode of "myth-making" about the origins of human religiosity.

One further fallacy inflates Theology far beyond its disciplinary domain. Like Historicism, Sociologism, and Psychologism, the discipline of theology can aspire to supremacy among all disciplines. If the term "Theologism" had currency, it would consist of the Massive Myth fallacy.

The Massive Myth Fallacy – the depiction of any broad paradigm concerning global politics, human history, natural science, or cosmic evolution as its own grand mythopoetic structure. On that depiction, even positivistic, realistic, and pragmatic paradigms from any discipline are imagining and projecting their relevance for humans, not any semblance with reality. This fallacy unfairly lets theology outrank the rest of the disciplines. Theology can construe paradigms of other disciplines as equivalent (or competitive) with the purview of theological myth, to permit theology to avoid academic refutation or replacement. Allied with academic idealism, this fallacy assigns to theology the sole capacity to comprehend and evaluate all knowledge and reality – the domineering delusion of Medieval theology. However, without speculative philosophy's assistance, theology could never converge on a single comprehensive worldview because mythologies of the world's religions great and small are not crafted to cohere together. Theology won't have any final myth, so its pretention to challenge other paradigms and disciplines collapses back down to due proportions. Paradigms must be assessed by disciplined methodological standards, not just by theology.

Category 7: POLITICAL THEORY

Political theorizing, from comparative government to constitutional law, looks to historical, public, and empirical information to warrant theoretical views on legitimate, efficient, and responsive governments. The field of political science isn't fully experimental, having to wait for regulatory and policy changes to collect evidence about results and compare them against expectations. Nevertheless, arguments over political hypotheses should be accompanied by data transparency and clarity, so that conclusions can be re-checked and tested for reproducibility. Methodological fallacies await political theorizing relying on ambiguous data, withheld evidence, unclear analyses, tacit assumptions, or (worse) ideological presumptions.

Fallacies can be committed where political theorizing strays into politicized history, political ethics, or ideological disputation (on its borders with economic theory and political philosophy). Examples:

The Ethnogenesis Fallacy – the quest to historically ascertain how an ethnicity or culture formed on its "homeland", not in terms of sound historical facts, but rather in terms of a contemporary quest to legitimate that ethnic group's rightful place in history or geography. This fallacy often accompanies an ideological nationalism, especially where social history has been recruited as an ally to support a fabricated political narrative.

The System Purity Fallacy – the determination to define and describe the functioning of a political system mainly in terms of its worthy virtues and beneficent service. By building the normative into the nature of a form of

government or a mode of federation (as examples), it is impossible to attribute malfunctions or misdeeds the system's inherent operations, which can never intend harm. On this fallacy, failures or faults must instead to be due to bad actors or outside factors, never to the system as it should be. This fallacy anthropomorphically attributes goals or intentions (always pure, of course) to just the institution, failing to understand that humans alone execute the system.

Against the Political Theorist Fallacies

The Political Past Fallacy – the assertion that a political "___ism" as cataloged in the history of politics has no afterlife past the lifetime of governments labeled with that "ism." On this fallacy, political theorists cannot classify any present-day government or political movement with that same dead "ism." Thus, Fascism expired with World War II, Stalin was the last Stalinist, and so on. The fallacy confuses a named class of actual regimes (political history) with the categorization for a type of regime (political theory) which assigns a particular regime into that class.

The Ism by Schism Fallacy – the presumption that a political movement's "____ism" as its theoretical basis is immune from scholarly critique because its opposed "____ism" has no right to thwart the movement. As a scholarly affair, this fallacy distracts away from assessing academic merits to either "ism." In the arena of social movements competing politically, schisms into rival factions may look like zero-sum games. In academic discourse, however, my "ism" isn't theoretically invulnerable just because your contrary "ism" would slow my movement's momentum.

The Revolving Revolutionary Fallacy – the presumption that a social or political movement, to be truly unconventional or counter-cultural, can be successful by reverting to some earlier stage of life or society. While a "before period" and an "after period" way of life depart from conventionality, they are far from the same. Lazy uncreative "revolutionaries" harken back to a "golden age," a "primitive condition," a "child-like innocence," a "liberated lifestyle" and so on – which share in making a promise of future irresponsibility. While the past is imagined as a period of expressive emotionality (whether of anarchism, barbarism, medievalism, romanticism, pacificism, infantilism, and so on) then by this fallacy, a coming revolution of spirituality, communality, or liberation must look like that past revelry. Educational theory since Rousseau has displayed this revolving paradigm pattern, whenever "child-centered" schooling promises insulation from structured conventionalism. Against this fallacy, Social and Political Theory agree that would-be "revolutionaries" only selling reversion fantasies do not lead enthusiasm movements lasting longer than a generation.

The Political Moralist Fallacy – the presumption that any political theory's account of some state of affairs among groups (factions domestically or countries internationally, for example) has incorporated the moral culpability and/or moral superiority of parties involved. Academically, any political theorist may tacitly or openly describe the state of affairs in moralistic terms, operating as a public pundit or partisan cheerleader. This fallacy ascribes that motivated scholarship to the entire discipline or at least its studies of political parties, comparative government, or international relations. The invalidity of this presumption does not rest on a perfect neutrality or vision of political theorizing (for none exists), but rather upon those supposing such moralizing to approve or disapprove the political account by their own morals, blinding only themselves.

The Constructed Construction Fallacy – the assertion that nothing about society has its own independent reality standing against human efforts on the grounds that any theoretical conception of social matters is itself a construction of human thinking. Friends of this fallacy are found among idealisms, fascisms, communisms, critical theories, postmodernisms, and the like, who insist that social/political structures are far more malleable (to reform and revolution) than immovable (per conservativism). Political and legal theory cannot agree that academics gets mostly corrupted by conservative ideology simply by theorizing about society. Precisely because social relations and structures remain instituted through human conviction that they should endure, conceptions

adequate to their social reality have to be realistically constructed. That there is “corruption” endemic within a particular society isn’t rendered unreal or imaginary just because a matching construct for “corruption” had to be academically defined to study that social phenomenon. Societies are indeed humanly constructed (objectively) to stand realistically against any members’ wishes (subjectively) that affairs were different. Only debates out in the arena of politics, and not frivolous disputes within academics, satisfy the point to change the world.

The Government by Contract Fallacy – the presumption that political theory credits any government with legitimacy where most citizens freely (or hypothetically) approve its constitution. On this fallacy, any government (despotisms aside) is just as legitimate as another so long as it stays popular. Political theory itself knows better. This fallacy confuses liberty with freedom: imagining citizens free to admire their constitution is one thing; governance respecting all people’s liberties is another. Counterexamples abound around the world, where populist approval allows minorities to be oppressed. No “social contract” theory guarantees good government; at most an hypothetical contract identifies basic rights.

The Democratic Disequilibrium Fallacy – the judgment that democratic majority rule cannot be a rational decision procedure, failing to lend satisfactions to all and reversing decisions from time to time. It is the case that counting votes cannot sum over all individual preferences in the manner that idealized markets can meet economic preferences. It is also true that any majority’s decision can get modified or reversed by future majorities. However, these shortcomings have no *political* remedy. Major political decisions are often zero-sum, unlike economic distributions, with majority and minority factions both standing on principle and not preference. Precisely because majorities are sometimes unjust to minorities without compensation, inviolable rights are needed (nowhere seen in economics) and unjust decisions should be amended or reversed by future majorities learning the ethical lesson.

Category 8: ECONOMICS

In 1982, Nobel Prize winning economist Wassily Leontief told his audience,

“Page after page of professional economic journals are filled with mathematical formulas leading the reader from sets of more or less plausible but entirely arbitrary assumptions to precisely stated but irrelevant theoretical conclusions. ... Year after year economic theorists continue to produce scores of mathematical models and to explore in great detail their formal properties; and the econometricians fit algebraic functions of all possible shapes to essentially the same sets of data without being able to advance, in any perceptible way, a systematic understanding of the structure and the operations of a real economic system.” (Leontief, 1982, p. 104)

This sort of protest cannot apply to most of economic theory as practiced globally since the times of ancient Greece, India, and China. Only modern economics, having detached from theology, philosophical ethics, and political theory (except liberal ideology), aspired to quasi-scientific status replete with axioms, laws, formulas, and statistical analyses. Ironically, 20th Century Western economics treats its paradigm founders as infallible prophets (but different paradigms refuse “prophet sharing”), its paradigm axioms as doctrinal dictates (unworthy of compromise), and its paradigm goals as nobly patriotic (for rich nations at least).

Economic data is no longer scarce, but mathematical economics got fixated on scarcity in order to be utilitarian about distributing resources rather than getting judgmental about wealth. That neutralization along with mathematization betrayed the discipline. Regarding the economic sphere as a closed-system mostly following stochastic linear equations forbids accounting for innumerable ways that economic matters are inherently matters of social and political activity too, sending models into disequilibrium and chaos. No economic system is ever closed: a currency bears political legitimacy; a bank obeys policy regulation; a business is foremost a legal entity; contracts must be judicially valid; illegal products seem immorally illicit; customs are just as authoritative;

professionals need educational and trade licensing; consumers prize attractiveness with utility; customer service demand etiquette; white collar crime is decried by public pressure; and tort cases answer to the "reasonable person."

In order to treat "the economy" as separable from society's actual interests and priorities, it constructs an alternative social realm ready for routinization and mechanization, and plenty of pointlessness. Ultimate economic goals are not any business of economics. Whether that vision might be about greater revenue for the government, or a larger GDP for the nation, or an elimination of poverty, or a redistribution of wealth, and so on – no economist shall be asked. By taking ends, any ends, as prescribed only leaves economics to figuring out efficient means and sacrifices. How unjust means could serve just ends is beyond even philosophy's imagination. Economics can be complicit with anything from slavery and serfdom to oligarchy, fascism, and communism. Dictators only fire their economists if they speak out. That is why "mainstream economics" makes a great show of kneeling at the throne of conservatism, globalization, and similarly safe orthodoxies. The pure economist loves democracy until the tyrant arrives. Nothing in utility economics can slow populists and dictators from gaining power – indeed, free markets often widen the social inequities that attract demagogues and autocrats.

So-called "heterodox" economic paradigms stay closer to social realities and public priorities instead. Where economics tracks large populations in all their complexities, predictions are vague but realistic; where economic models idealize agents and institutions, forecasts turn out to be no more accurate than astrological prognostications. While economics postures as an explanatory discipline, theorists point to confirming events but hide from surprising events. Ironically, economists get summoned to supply fixes for crises they couldn't predict in the first place. When an economics paradigm resorts to unquestionable intuitions, or to dogmas about what people should be doing (since they evidently aren't by throwing models in disarray), then economics appeals in desperation to norms once discarded.

Common fallacies in economics include:

The System Perfectibility Fallacy – the determination to define and describe the functioning of an economic system mainly in terms of its worthy virtues and beneficent service. Ike the System Purity fallacy in political theory, this economics fallacy ensures that the normative gets built into the nature of an economic system. On this fallacy, it is impossible to attribute disorder or damage to the economic system itself, but any bad results are due to human faults. This fallacy anthropomorphically attributes goals or intentions (always approaching perfection, of course) to just the institution, failing to understand that humans alone execute the system.

The Chess Piece Fallacy – expecting that rearrangements of economic and policy factors will leave those mechanisms of influence unchangingly effective despite the changing social conditions across a country. Anticipating how modified policies and program will yield hoped-for results is always hazardous, but this fallacy obstructs competent calculations and forecasting. An economy, like the society in which it is embedded, is more like a vast multi-system organism than a machine of interchangeable parts. Humans, individually and collectively, adapt their behaviors to pursue revised goals under changing conditions, not heeded an economic dogma about rigid habits.

<u>Against the Economic Theorist Fallacies</u>

Broad-minded economics is evidently required. Economics in general as a discipline is well-positioned to benefit from the academic knowledge of other disciplines, especially history, sociology, psychology, theology, political theory, and science. Fallacies ensue when that knowledge is misused or ignored, including when any economic theorist commits one of these fallacies themselves.

The Market Mania Fallacy – expecting that the economic sphere of life for all cultures, past and present, amounts to exchange relationships reducible to structures of the (more or less) open market. As a dismissal of economic anthropology alone, this fallacy misunderstands and denigrates non-modern economies. Moreover, this fallacy distorts economic history back to ancient times, only seeing dim reflections of its own commodified and capitalized image, and portraying past economies as paths leading to modern economics. (The Marxist version of this fallacy is only more explicit about such economic predestination.)

The Live to Produce Fallacy – interpreting any society's customary ways of producing goods as Intrinsically motivated by profit from production. Social theory and anthropology observantly classify a wide variety of productive modes and motivations, far from any "profit motive." Although humans in any society produce to live, it doesn't follow that all people live to be productive. The innumerable things that humans cultivate, craft, and create are frequently gifted or exchanged as part of care offerings, status exhibits, power displays, social honors, religious rituals, spiritual elevations, aesthetic appreciations, and many more social motivations. Only modern economics requires the "genuine individual" to be fixating on productivity for wage and profit by neglecting other cultural practices.

The Stakes not Mistakes Fallacy – dismissing the relevance of motivational and cognitive biases to financial prudence and economy planning, expecting that mistaken judgment becomes rarer as the stakes grow greater. This fallacy is more than just a manifestation of modern economics' dependency on calculations about idealized "rational actors" marching along with formulaic decision procedures. Microeconomics easily admits that consumer behavior tracks many heuristics and biases; merchandizing and advertising counts on them. Business and macro economics resist introducing "dumb" deviations from reasonableness into algorithmic principles guiding fiscal management and economic policy. Nevertheless, group and mass psychology can account for irrational trajectories of corporations, industries, market sectors, and economic crises.

The Secular or Sacred Fallacy – classifying anything bearing value as either materially useful (with scarcity) or as spiritually sacred (with sanctity). Economics gets unfairly judged for reducing all goods down to materialism's level; economics does set aside a small space for non-fungible matters, which only reinforces that dichotomy and this fallacy. Theology is happy with its treasures of incommensurable worth, and capitalism (largely through Protestantism) commodified all the rest of life. Since modern economics views all goods through the lens of supply and demand, both material and spiritual goods seem to be about shortages rather than abundances, as the individual demand for both sorts of goods gets effectively unlimited. (If every soul gets heaven, religions have no scarce product to market.) An economics of communal abundance avoids this fallacy, but it is now practically unknown to modern economics (as it is unknown to Western theology).

The Deterministic Freedom Fallacy – expecting that the more lawfully deterministic economic theories become, the more liberatory freedom prevails in society. Demonstrating how "free" markets and political liberties are not just correlative but coincident is just a recent version of this fallacy. Rigidified economic relations preserve customary orders, so economic ideology in every age has to praise how people are freely participating *precisely* in the economic manner *permitted*. Defenders of slavery pointed at the slaves' liberation from primitive life; defenders of serfdom pointed to the serfs' opportunity to farm with lifetime security; defenders of laissez-faire capitalism pointed to the poor's freedom to work hard or soon die. Today, economic systems pretend to imitate the natural order by aspiring to scientific status with formulaic theorems about static economic institutions and stick-figure humans performing as required. The fallacy is avoided by averting economic pseudo-science and conjoining economic theorizing with ethics and political theory.

Category 9: SCIENCE

The natural, social, and life sciences uphold rigorous methodological standards and regulations to prevent fraudulent data and fallacious theorizing. Listing fallacies found among the sciences would mostly consist of itemizations about methodology violations committed by negligent or dishonest researchers. Certain fallacies deserve mention because they can occur when one scientific theory or field misconstrues or misunderstands another paradigm's approach.

Antecedent Existence Fallacy – expecting that an entity postulated by an established theory has had a pre-existent reality precisely as postulated prior to its experimental confirmation. As an epistemological corollary to the metaphysical requirement of Static Realism, that the object as known must be unaffected by any effort and achievement of knowing it, this fallacy denies that the object to be known can appreciably participate in any empirical process of knowing it. Besides rendering it enigmatic how any empirical method could causally reach an object by definition immune from engagement, such a "pre-existent" object, if ever known in its pristine aloofness, could only be responsible for perfect knowledge of it, rather than any partial or erroneous knowledge. Therefore, the epistemology of knowledge gets abandoned by Static Realism to a condition of skepticism, where the would-be knower cannot discern an empirical difference between accurate and inaccurate knowledge. The fallacy is dispelled by realizing how any object investigated by empirical experimentation must realistically participate in its discovery to become confirmably knowable, and hence is partially constructed from that process, and only known as such. It can be realistically projected into the past prior to discovery, but only with the understanding that this is a projection, and no projection helps to "explain" its own discovery (that would be a fallacious circularity).

Empirical Equivalence Fallacy – claiming that a well-established theory is "underdetermined" and lacks empirical confirmation only because a challenger theory or paradigm can be equivalently compatible with the same evidence as the established theory. Scientific theories lose credibility from lesser empirical support, but "ties" have to be handled carefully. Failing to gain more empirical support than a rival leaves a theory in second place, but striving to match the rival's explanatory power can't award "shared" first place. A genuinely different theory about a different explanatory entity would imply some distinctive evidence somewhere; perfect empirical matching only needs a formulaic "difference" making no difference. Primacy belongs to the pioneer; followers covering the same ground are still behind.

Sham Causation Fallacy: supposing that the actual cause of something shares the same nature as the intervention that a scientific technique can induce upon that thing. As a magnified version of the False Cause fallacy, it encourages one scientific field to hastily assume that another field's manipulation of a natural process shows how this process's main cause is of the same nature as that intervention. As a heuristic suggesting possible causes, fresh conditions of control are indeed suggestive for abductive hypothesizing. Inducing an animal nervous system to activate from electrical stimulation helpfully suggested an electrical basis to nervous activity, but neuro-chemical abundances and balancings proved to be more essential in neurology. Further, inducing cognitive changes from electro-magnetic stimulations upon the cortex does nothing to prove that consciousness consists of electrical fields.

Treatment-Etiology Fallacy: hastily presuming that the nature of a medical intervention with a problematic condition exposes the actual cause behind that condition. This fallacy, like the Sham Causation fallacy, confuses an efficient treatment with an efficacious understanding. Correlations are never proven causations, especially in biology and medicine. In general, the introduction of a medication, no matter how efficiently it yields a remedy, does not mean that the underlying actual cause is thereby understood. For example, a person taking a drug introduces a biochemical alteration to the body's metabolism and thereby gains relief, but the actual cause of the problem may not be metabolic (e.g. it may be physiological and need surgery, or it may be psychological and require psychiatry). In general, only in an mechanistic field would an effective intervention reliably indicate an efficacious causal factor. Medically, restructuring surgeries should address genuinely anatomical issues. However, a

biological intervention with the brain through a drug cannot show that a mental issue has any biological cause or basis.

Against the Sciences Fallacies

Outside of the sciences, perspectives from alternative worldviews or anti-scientific ideologies sometimes argue either that (a) science's knowledge is on their side, or (b) science lacks knowledge to oppose them. All such attempts commit fallacies against the sciences.

The first set of four fallacies occur when imaginative speculation solicits science into supporting some grand vision – metaphysical, epistemology, axiological, or ethical – encompassing all reality. Speculation is indeed philosophical, but these fallacies are pseudoscientific and pseudo-philosophical by falsely making it appear that science fully supports such radical speculations.

The Weird Science Fallacy – the contention that one inexplicable aspect of nature is better illuminated by fusing it with some other mysterious matter so that a single speculation explains both simultaneously. This fallacy gains inspiration from an abductive step postulating a deeper explanation behind two correlated phenomena (a step demanding scrupulous rigor). However, this ambitious fallacy leaps beyond empirical bounds to appear intellectually respectable without meeting academic standards. Examples abound where 'consciousness' or the 'quantum' get involved (or both!) Academics advancing such holistic speculations are indeed philosophical but very undisciplined.

The Anthropic Universe Fallacy – the attempt to explain the fundamental nature or structure of the universe in terms of the inevitability of its course towards the current existence of humans able to understand the universe. Basically, the argument says, "Unless the cosmos had feature F, earth's hospitality for humans wouldn't have happened, but here we are, so the universe must have F." This sort of argument is a legacy of rationalist transcendental arguments, which fallaciously infers that one explanation is necessary just because there is (so far) no conceivable alternative. This is not a scientific path to acquiring knowledge. The inconceivability of alternatives is no good argument, not out beyond the horizons of knowledge, so this fallacy is akin to an argument from ignorance: "We can't imagine how the universe could be different, so..."

The Cosmic Goodness Fallacy – the claim that the entire cosmos has goodness or possesses an overall worth simply because some tiny places randomly dispersed around the cosmos are indeed quite nice. Proper perspective dispels this fallacy. Almost all of the cosmos is near-empty vacuum transited only by photons, neutrinos, and other scarce particles. Although there are perhaps a trillion galaxies, they are separated from each other by far vaster regions of emptiness. The Andromeda galaxy is "close" to our Milky Way at 2.537 million light-years away, but that's a distance 25 times more than the size of the galaxies themselves. Within galaxies, stars are more crowded, but again its mostly empty interstellar space, and the tiny planets huddled near any star are almost entirely made of gas, sand, and rock. We do like our planet, but such scattered scarce places could not make the immensely vast cosmos just about them.

The Natural Law fallacy – the claim that moral duties are derivable from knowledge about the order or design of nature. The specific Creationist Ethics fallacy finds human duties in human design, taken to imply a designer's hand and the Creator's intent for us. These fallacies appears to garner more scientific support for its approach to ethics than the simplistic "Is-Ought" fallacy, by putting humans "in their proper place" within the "natural order" of things. Although medical and therapeutic sciences strive for normative goals about health and happiness, what is morally good for individual people can't be derived just from their biology or their environment. Only social norms and ideals about how we want to live, and live best, set our normative goals and duties for human conduct. Anyone wants to have a place to live best, but rough nature and strict natural laws can't tell us our duties to each

other. Ideologies appealing to “living the natural life” commit this fallacy by projecting all-too-human ideals onto nature’s uncaring ways.

The Intermediate Forms Fallacy – the claim that a scientific field lacks concrete evidence for so-called “transitional forms” between types of objects (e.g. organisms or galaxies) on the grounds that every example of new evidence (a dug-up fossil, or a discovered galaxy) obviously exhibits its own form rather than an “in-between” form. This fallacy was applied by creationists to deny evolution; whenever a new fossil of a strange animal was discovered it was promptly given its own species name, so that it couldn’t be transitional. Where is the fossil that looks half-fish and half-reptile? Of course, enough gathered fossils eventually displayed innumerable transitional species, and evolution expects most species to get a little transitional over millions of years. This fallacy also obstructed the theory of the evolving universe for a while, as proponents of the static universe paradigm complained during the mid-20th century that the small number of galaxy types never includes a transitional form. By the 1980s, powerful telescopes revealed among millions of galaxies many dozens of galactic forms, displaying developments, transitions, and collisions due to the universe’s dynamism over 13+ billion years. Indeed, new Webb telescope discoveries of unusual galaxies may revise cosmology. Science’s confidence in its own empirical methods prevents this fallacy from affecting its progress.

The next set of fallacies set up arguments that start from a disciplinary principle but twist that principle against science to prevent scientific knowledge from opposing an anti-scientific agenda.

The Discordant Science Fallacy – on the philosophical principle that expert knowledge wouldn’t contradict itself, argue that an “apparent” controversy among scientific experts on Topic T shows how knowledge is surely lacking, and science can’t oppose our consistent view of T. To reinforce the fallacy, we can invent a false narrative about a history of scientific disagreement over this topic. Or, we can manufacture our own “experts” eager for dissent against rival scientific experts. The fallacy is exposed by pointing out how near-consensus is pretty decisive within science, and pointing at some scientific dissent can’t make your anti-science position correct.

The Past Paradigms Fallacy – on the historical principle that complete narratives should include diverse views, argue that multiple theories about topic T have enjoyed scientific status in the past down to the present, so current science can’t oppose our singular view of T. To reinforce this fallacy, we can emphasize how scientific approaches to T have not been unified and several paradigms have spoken so far. The fallacy is exposed by pointing out how past paradigms get replaced in science by better theories, and although no current theory is final, that can’t make your anti-science position correct.

The Agenda of Science Fallacy – on the sociological principle that organized groups operate to mainly advance their interests, argue that science communities pursue self-serving agendas, such as an agenda about topic T, unlike our impartial standpoint that neutrally approaches T. To reinforce this fallacy, we can spread disinformation that rival experts are motivated by ideology rather than truth. Or, we can invent propaganda that a rival scientific field is seeking its own profit. The fallacy is countered by explaining science’s impartiality about evidence-based knowledge, so unlike the partiality of an anti-science agenda.

The Faith of Science Fallacy – on the theological principle that organizations consolidated by internal fidelity publicly preach their faith, argue that a scientific field dogmatizes about topic T at the public, unlike our devotion to the public’s right to know the truth on T. To reinforce this fallacy, we can depict rival scientists as members of a cult-like commune. Or, we can invent propaganda about rival science experts more loyal to unscientific ideals. The fallacy is countered by explaining science’s submission to evidence-based knowledge, quite the opposite to that unquestioning anti-science ideology.

The Party of Science Fallacy – on the political principle that any citizen association seeks partisan advantage, argue that scientific associations are just political forces lobbying about topic T, unlike our own meek service to improve

the public welfare about T. To reinforce this fallacy, we can accuse rival scientific experts of being players within a political party. Or, we can invent false narratives about dangerous political objectives of rival scientists. The fallacy is countered by pointing at the relative powerlessness of science in general. Even a prominent scientist placed in an official role sticks closer to scientific knowledge than an anti-science political agenda.

The Profitable Science Fallacy – on the economic principle that scientists taking a side on economic matters are market agents, argue that those experts merchandizing their views on topic T cannot be trusted, unlike our experts holding unbiased views about T. To reinforce this fallacy, we can accuse rival scientific experts of profiting from industry, corporate, or NGO funding to produce their research. Or, we could establish our own "Institutes" to lend prestige and credibility to manufactured reports supporting our position. The fallacy is countered by accounting for the legitimate funding of scientific research.

The Science vs Science Fallacy – on the scientific principle that all scientific information should be transparent and accessible, argue that scientific experts camped on one side of topic T aren't open-minded, requiring counter-balance from our scientific position on T. That counter-balance can be supplied by our camp's manufactured "research" reports that seem 'science-ish'. To reinforce this fallacy, avoid peer-review by real experts by publishing through allied venues and media, and collect endorsements from our fake experts in the process.

Further Reading

Leal, Fernando, and Hubert Marraud. "Argumentation in Philosophical Controversies." Argumentation 36, no. 4 (2022): 455-479.

Science and the Other Disciples

Only Science is the science discipline. Imitating and borrowing empirical and experimental techniques allows the other seven disciplines, and any of the cultural praxes, to be somewhat scientific in ontology and methodology, but not in orthology. Science cannot replace values, ends, and ideals for life in general, although it may try to offer its own scientific values as substitutes for cultural values. Scientific values are also poor substitutes for the values and ideals respected by the other disciplines. Attempts to reduce a non-science field or discipline to a science just perverts that discipline's purpose and value. A discipline's adaption of selected scientific methods and theories is able to offer refinements but not replacements of its own investigations, already well-suited for its own subject matter.

Among the eight Ur-disciplines themselves, the seven non-science disciplines from philosophy to economics have taken opportunities to incorporate some scientific knowledge, follow some scientific methods, or usually both. Thus, we may speak of scientific Philosophy's emphasis on empirical standpoints; scientific History's expectations about corroborating records; scientific Sociology's application of quantitative research; scientific Theology's compromises with empirical naturalism; Political Science's metrics about efficient policy and governing; and scientific Economics' laws governing economic activity. However, no discipline (or any of its sub-disciplines) can ever become sciences. Only Science is science.

With the arrival of modernism, Science has replaced Theology as the discipline most eager to supplant philosophy entirely.

SCI Science	**Energy** Contra-philosophy: Force is fundamental. To lack causal effect is to be non-existent.	Science warrants credible ***theory*** for knowing how things interactively relate. Contra-philosophy: Speculations unable to attain empirical adequacy are unintelligible as compared with well-confirmed theory.	Science yields capabilities to produce more goods with practical ***efficiency***. Contra-philosophy: No values merit prestige unless they can be produced in abundance for enjoyment by the many rather than just the few.	Science deserves global preeminence for its vast ***service*** to human welfare. Contra-philosophy: Scientific norms about freedom of inquiry, undogmatic belief, and collegial learning work fine in all areas of life too.

The efforts of "scientism" (see the next section too) to supplant Philosophy with strict naturalism and inquisitive norms cannot succeed. Only philosophical arguments (not empirical tests) could possibly show why science's methods are always superior to other modes of exploration and knowledge. If such argumentation could ever succeed, Philosophy is irreplaceable anyways; and no such arguments have yet succeeded, so Philosophy stands secure.

Scientism in the form of Physicalism (only the natural sciences know any reality) undercuts History, Social Theory, Theology, Political Theory, and Economics, because those disciplines presuppose the reality of agents (us humans) and our free actions.

The quick version of Physicalism vs. Agency:

1. Only physical events are real (see physics).
2. All physical events obey only strict natural laws that dictate one single future.
3. If agency were real, then the future would not be dictated (free will).
4. So, no agency is real (just an illusion).

https://plato.stanford.edu/entries/determinism-causal/

Basically, the natural sciences can't "see" agency – they only observe matter in motions entirely controlled by laws of nature. Do atoms decide where they like to go? But you are just made up atoms, and complexity won't violate natural laws. What you will do exactly next year at this very hour is already predestined by the single timeline of natural law. No agency.

Philosophically, there are three escapes routes: reject premise 1, or 2, or 3.

Reject 1: other disciplines get to know other kinds of reality, too. If the mind/soul is real, then adopt dualism, etc.

Reject 2: reject strict determinism – maybe quantum physics adds chanciness, etc.
Reject 3: agency is compatible with determinism - see https://plato.stanford.edu/entries/compatibilism/

The other disciplines are quite hostile towards Physicalism. They won't be told that they are premised on illusions, or threatened to reduce their terms and explanations down to just the terms and theories of the natural sciences.

Physicalism can ally with Scientific Philosophy, but Philosophy in general prefers compromise and collaboration among the disciplines. None of the other disciplines can be reduced down to, or entirely absorbed into, any of the particular sciences or into scientific naturalism as a whole. On the other hand, reconciling the eight disciplines with scientific methods and knowledge is both possible and fruitful. However, ontological, epistemic, and value adjudications among disciplines must ultimately answer to the purview and adjudication of Philosophy. To talk of the "social sciences" for example can at most refer to disciplines such as Social Theory or Economics adapting a few scientific methods to aid its own disciplinary pursuits. The reason why philosophy, history, and theology are classed among the Humanities is precisely because by their nature they benefit the least from becoming scientific, and they are subverted entirely if absorbed into the sciences.

Science is not unique for lending methods of inquiry to other disciplines. Each discipline borrows from others in various ways. Philosophy, history, and sociology have greatest import for the rest. Disciplines must be philosophical as they reconsider ontological grounds and reassess guiding values. Disciplines from sociology to science incorporate historical perspectives and accounts. Theology, political theory, and economics must have sociological aspects.

Explanations appealing to agents and agent-level causes and events are undertaken by the other six non-science disciplines, although those disciplines can still be "scientific" in some of their methods. For example, psychology as a sub-discipline of Social Theory can discern regularities and causalities among behavioral and mental phenomena, but any meaning to theoretical entities -- such as a "mental state" or "neural process" -- remains dependent on descriptions of agents and their activities. Psychology cannot be reduced entirely to neurology, any more than music can be reduced without remainder to acoustics.

Science must be able to conduct controlled experiments of its own designing. No non-science discipline can engage in fully controlled experimentation, without denying the human element or becoming inhumanly evil. This is no loss, for humanity itself is their object.

Science, for its part, is wrongly accused of omitting the human from its theorizing, for the nature of humanity, over and above the animal *Homo Sapiens*, is no part of its ontology. Humanity is a spiritual inheritance and bequest for our participation, not mere observation. Each of the Human Sciences – scientific methods and knowledge contributing to History, Social Theory, Theology, Political Theory, and Economics (and their many subfields) – do not search for universal forces or laws, but only knowledge adequate to the living flow and development of human culture(s). Since these disciplines all deal with Humanity and hence the human understandings of their ever-changing humanity, all Human Sciences are historical and historiological at minimum. Academic categories, conceptual terms, and constructions need to be as adaptive as societies themselves. Sociologist Max Weber said,

> Some sciences are fated to remain eternally youthful, namely all historical disciplines: all those that are constantly confronted with new questions by the ever-advancing flow of culture. The very nature of the task of those disciplines implies that all ideal-typical constructions are transitory, but that, at the same time, one inevitably needs ever-new ones.… In the sciences of human culture, the formation of concepts is dependent on how the problems are configured, and in its turn, this configuration changes with the substance of the culture itself. [Weber, "Objectivity," CMW, 133, 134; MWG I/7, 224, 225.]

Scientific Philosophy

Where discrepancies among scientific ontologies, or confusions among scientific methodologies, or adjudications among scientific values (such as experimental risk/reward estimates) must be reflectively resolved, this philosophical work falls to philosophy proper and cannot be done by any amount of scientific investigation alone. The philosophical stance that philosophy of science's judgments need not return to science for further empirical consideration is the stance of Dualism (because non-empirical tenets must prevail). The alternative, that recommendations about reconciling ontologies and improving methodologies must receive confirmations in further scientific practice, is the stance of Naturalism. Naturalism as

a broad philosophy is inherent non-reductive, although the science are taken most seriously. The third main view in philosophy of science, that all knowledge worthy of the name is achieved by the sciences alone, is narrow Scientism. (The fourth main view here about science, Idealism, proposes that science never attains knowledge of realities, but only tracks appearances.) Scientism and its reductivism (whether in the direction of positivism or theoretism) eliminates the non-science disciplines save for their most scientific versions, and dismisses as superstition or decoration everything about the disciplinary areas essential to culture. Idealism vaults to prominence whenever scientism threatens; examples include mysticism, Platonism, transcendentalism, vitalism, and phenomenology. However, Idealism is unnecessary and unhelpful since broad naturalism Scientism in its radically pernicious form is a kind of techno-fascism and should be ethically condemned (by philosophy) and democratically resisted (by political theory).

Scientific History

Not to be confused with the history of science, scientific history undertakes the study of past history with assistance from scientific methods. History, along with sociology, is amenable to certain scientific standards because it too deals in evidence to compare and conclusions to be tested. Also, like the sciences, history seeks knowledge about events and causes unobservable to current eyes, due to the veil of time hiding the past from view. Hypotheses about past matters are indirectly accessible through the means of personal memory, object permanence, and event causality. Past events can be recalled now, past objects exist down to the present, and perished objects are responsible for traces lasting until today. The past leaves records of events that last to the present, but scientific approaches serve best to test for authenticity by asking for realistic corroborations.

The scientific historian follows many principles, similar to those of a detective or a trial court, to collect and assess the true import of historical evidence. To be scientific, the import of a record has to be judged against the limitations of human cognition, the information from old artifacts, and the conditions set by natural laws.

> Personal memory: A single eyewitness's testimony is not reliable evidence, even under ideal conditions; many witnesses are needed for reliable evidence. A story retold through several people over long periods of time will have distortions and exaggerations. A transmitted written record will similarly incorporate and increase such deviations, especially when an author has opportunity and motivation to modify the account.
>
> Surviving artifacts: Only physical objects that almost certainly must have been present at an event count as good evidence for that event. If there are one or more plausible alternative origins for a physical object allegedly from an event, it cannot count as good evidence for that event happening. If one or more people has good opportunity and strong motivation to artificially create a physical object allegedly from an event, it cannot count as good evidence for that event happening.
>
> Causal Traces: Only causal traces that almost certainly must have originated in an event count as good evidence for that event happening. If there are one or more plausible alternative origins for a causal trace allegedly from an event, it cannot count as good evidence for that event happening. An item of non-existing evidence counts against an event only if there is no plausible explanation why that evidence should now be impossible to locate.

Scientific Socio-History

Human understanding and agency, individual and collective, dominates historical explanations for the courses of events great and small. Events by themselves explain little in historical accounts; individuals and peoples act from their interpretations of perceived events. As history applies itself to the antiquarian and old – monuments, ruins, statuary, artifacts, art, and other archaeological material – history overlaps with sociology, since judgments about how and why people were producing and living are intrinsic to any historical significance. Correspondingly, sociological knowledge about group organizations and operations allows scientific history can strive for the theoretical understanding of broad patterns and regularities found among societies.

History cannot avoid interconnections with Social Theory, especially where they specialize as cooperating human sciences. History as empirical inquiry displays four main phases that grew from scholarly history on towards critical history are:

1. Dating events of human activity, arranging those events chronologically, identifying episodic sequences;

2. Discerning patterns among types of events, and distinguishing trends among those patterns;
3. Proposing correlations among patterns and trends in the course of human affairs, whether known to them or not;
4. Suggesting contexts and conditions contributing to occurrences of events and the courses of human affairs.

Most history of larger import, especially for the future, consists of social history. Following up on empirical history, social history can additionally:

5. Attribute agency to individuals or groups for conditioning events and event sequences (perhaps deliberately or unintentionally;
6. Credit responsibility to agents in groups or collective agency for partially or mainly causing social events;
7. Proposing how attributes of agents (individually or as a group) can be responsible for conditioning event sequences and patterns in the course of human affairs;
8. Suggesting how significant events, conditionings, and social trends have influenced or guided agents (individually or collectively).

Social history sets the stage for social theorizing about regularities and causal explanations for social relations, affairs, and structures. Scientific social theorizing becomes *sociology*, joining anthropology and psychology as major subfields of social theory. Social Theory's empirical study of social matters, whether quantitative or qualitative, attempts to fit information about publicly observable conduct, relationships, and institutions together with theoretical explanations for social events, patterns, and trends. Principles of sociology are amply developed in many directions, but they are also deeply contested, mostly due to the absence of a paradigm integrating social psychology with culture studies. Reconciling the freedom of human agency with the conformity of cultural practices requires an adequate theory of social mentality, but an excess of individualist ontology sets up dichotomies between the personal and the public.

Scientific socio-history, by projecting regular trends in order to make testable predictions about past and future social developments, becomes cliodynamics. Cliodynamics illustrates how history and sociology can be combined for an inter-discipline on a scientific basis. The principles of cliodynamics rest on the way that any developmental patterns or regularities pertaining to historical eras are themselves eventful as well, rather than floating transcendentally above worldly events. With the advent of big data, large datasets about past facts and events can be assayed to empirically test hypothesis about socio-historical matters. Cliodynamics is also enjoying a measure of success where political economy had been trying to forecast large-scale market and financial patterns over decades or even centuries. World systems theory will benefit from cliodynamics in the search for patterns and trends on international and global scales.

Scientific Theology

Philosophical theology offers cosmic integrations of knowledge about spirituality, society, and nature. Philosophical theology adjusts or invents views of ultimacy and divinity, de-emphasizing or ignoring scripture and tradition. A typical religion prefers its own systematic theology which preserves important dogmatic ideas about its deity. Systematizing a natural theology to credit a supernatural being for otherwise inexplicable features of the world has to count on science's inadequacies, but scientific advances leave God practically useless. If philosophical or systematic theology prioritizes religion's consistency with science, God gets tied down to deism's specifications, or scaled down to pantheism's size. A scientific theology prioritizing scientific paradigms goes even further, only permitting idea about God implicated by science's evidence and knowledge; this vetting process eventually arrives at a benign (and godless) religious naturalism. No scientific knowledge is possible about God, not because evidence expected by believers is improbable, but because unexpected evidence from experiments with God is impossible.

Scientific Politics

Political Theory is wise to adopt theories endorsed by sociology and cliodynamics, in order to assess predictable interactions between governing and other civic spheres. The subfield of political science can aspire to modeled explanations for the conduct and outcomes of political movements, governing action, government transformation, and similarly large-scale developments. Theorizing able to evade ethical idealizations, which is difficult enough, cannot overcome limitations from inadequately controlled experiment. Political forces cannot be set in motion or quelled to a halt on strict schedule, even by masterful politicians. For that reason, unless and until political science is combined with cliodynamics, regularities to political

powers cannot be adequately projected into the future. A political cliodynamics, such as that proposed by Strauss and Howe in *Generations* (1991), sets out a genuinely scientific theory working at the level of large nations.

Scientific Economics

Due to their stricter specificity, economic forces are more easily identifiable and trackable than any political forces. Power and its exercise is far more diffuse and multiform than property and its exchange. On the other hand, any well-confirmed economic regularity has innumerable deviations and exceptions due to happenstance conditions, far more than any natural law. Although economic experimentation is vastly easier than political experimentation, controlled economic experiments only reveal how many different sorts of variables can influence outcomes. Human agency and plans are too unpredictable in principle. This indefiniteness to economic patterns is not due to lack of enough evidence, but rather due to a plenitude of evidence. The more facts gathered about such matters as production, exchange, and consumption, the less any economic formula enjoys broad application. Too many caveats must accompany an economic truth. Only the vaguest sorts of "laws" appear to have universality validity, yet they are useless for specific predictions in actual situations. Nevertheless, as idealizations, cause-and-effect generalizations about economic forces can guide decisions public and private when combined with detailed information about concrete situations.

Scientific Mathematics

Provability has traditionally meant that a single human mind, suitably trained, could gradually apprehend the validity of an entire calculation, formula, derivation, theorem, or any sort of proof. A series of such minds, if they trust each other, could suffice. A computational algorithm, if rigorously tested for its reliable capability on simpler deductions, can undertake super-recursive and data-intensive functions in order to yield calculations and derivations beyond the ability of any human mind(s). Electronic calculators and computers are illustrations. Beyond the calculation of formulas, computation can seek derivations of formulas and patterns to structures not yet envisioned by mathematicians. Such experimental derivations from computation can be used as predictions, suggesting theorems later appreciable by mathematicians, or offering predictions awaiting rigorous proofs by established mathematical methods.

Scientism A–Z

Friends of religion or spirituality are heard to cry an alarm against "Scientism!" on occasion. Cultural opponents to scientific or technological strides have used "Scientism!" as a clarion call for resistance as well. Quieter voices have been asking, "Is scientism what I think it is?" The label of scientism may be irretrievably lost to rhetoric and polemic, but it does involve science, which deserves far better.

The guardians of sanctity and the prophets of doom make it pretty clear what it is they are trying to protect. It's ultimately about some traditional folkway, somebody's comfortable status, or some group's rigid conviction. Eloquence abounds when such a righteous cause is to be praised. Scientism, we simply are supposed to see, is precisely that very bad thing which is threatening such a very good thing. And scientism should shut up and go away, and let us keep on doing things the way we like.

The critics of scientism apparently don't compare notes among themselves, to see if they could agree with each other about what this "scientism" is. Nevertheless, it has acquired a pejorative stench in certain areas of public discourse. One just mentions it, to arouse distaste among one's audience, to win every argument for one's side. "Socialism" can work this way in some parts of the land, or "Darwinism." It apparently doesn't matter whether you, or anybody, can precisely say what this dreaded "scientism" would be.

Scientism-haters are sometimes heard to contradict each other, too. Is scientific knowledge good, or evil, or both? For example, an fMRI image taken of a person's brain while meditating will garner praise from one religionist happy about a scientific "confirmation" of mysticism in the brain, while another religionist will take alarm about this scientific "reduction" of religiosity to the brain. Which is it?

Its hard to hear a clear definition or consistent position on "scientism" taken by the religious, or the spiritual, or the protectors of whatever is so good and holy about cultural matters. Then again, the scientific world, or the secular world, hasn't displayed any unity about scientism either. Should friends of science accept the "scientism" charge and defend what others think of as intrusive science? Or should friends of science deny the charge and defend a humbly limited role for it? The religious are hardly the only ones eager to cast the first "scientism" stone at the latest breakout of enthusiasm over a scientific or technological breakthrough. Virulent condemnations of scientism can sweep through secular sectors, too. The loudest critics of scientism all sound pretty sure that plenty of science-worship has been going on, to the detriment of society and civilization.

Let's spell out what Scientism may be from A to Z, from mild and sensible sorts of science appreciation, through stricter kinds of scientism and then the most strident versions.

A. There is a thing called "science" with its own characteristic features distinctive enough to distinguish it from other human practices.

B. Plenty of knowledge about a subject can be gained by practical trial-and-error, but scientific knowledge of that subject is more reliable and valuable.

C. If there are people believing that something is true, but a science confirms that it can't be so, then those people don't really know.

D. There is a specifiable "scientific method" that possesses some definable core or essential steps, used by all genuine sciences.

E. There is no subject matter or kind of reality, or any field of experience and endeavor, that isn't amenable to inquiry by scientific method.

F. Even if there is no singular "scientific method," the methodologies used by scientists are universally applicable to anything that can be observed or can have empirical consequences.

G. Any explanation that hasn't been tested (or can't be tested) by scientific method(s) is no explanation at all and mustn't be believed with any confidence.

H. Whatever people may think they know, they don't really know unless some science or another among the social, life, or physical sciences can come along and approve that knowledge.

I. However the sciences may develop and undergo paradigm shifts, science itself is reflexively competent to fully understand how it works best without assistance from any other humanistic or philosophical field.

J. Whatever the sciences may acknowledge to be happening and have existence cannot be amended or overruled by any other field of experience or intellectual discipline.

K. Nothing can be happening unless empirical consequences and entities/forces/laws trackable by one science or another are somehow involved.

L. A thing isn't independently real unless it can be theoretically confirmed, presently or in the future, by one science or another.

M. A thing can't have any reality unless it can be theoretically confirmed by one of the biological or natural sciences.

N. A thing has no reality at all unless its existence is required by a theory of a single natural science enjoying the widest universality (physics).

O. A subject matter that seems to have little or nothing to do with a natural science hasn't been well-understood until natural scientists have reviewed and commented on it.

P. A thing cannot have value unless its existence has been scientifically confirmed and some science(s) can agree that it has some value, for an individual or an aggregate of individuals.

Q. There is no form of human relationship or type of social organization that cannot be understood and improved by the application of scientific inquiry and reformed by scientific knowledge.

R. There is no worldview that cannot be improved by the infusion of scientific knowledge and the replacement of non-scientific ideas.

S. No worldview has serious legitimacy unless it agrees with the natural sciences that humanity has no special place, purpose, or destiny.

T. No virtue, moral norm, or ethical principle has serious legitimacy unless it has been confirmed by, or derived from, scientific knowledge about humanity and reality.

U. Cultural folkways or social institutions that rely on ideas/values about matters which no science can accept as knowable, ethical, and real should be eliminated or at least marginalized.

V. A highly worthy life is one guided by a scientific outlook on the world.

W. The worthiest culture for humanity is the one technologically controlled by the scientific worldview.

X. The most thoroughly scientific culture should displace and marginalize all other cultures across humanity.

Y. The supremely scientific culture should eliminate all rival cultures and control the destiny of humanity.

Z. The supremely scientific culture should control the course of humanity as well as all posthuman sentient forms of life, including AI life forms, that may arise from humanity.

Critics launching charges of "scientism," despite their vagueness, often hint at some of these views, and even manage to hit upon one, sometimes inadvertently. The most careful of critics are worth the attention when they do precisely explain the kind of scientism that troubles them, and why it darkens their dreams. As for the rest of the critics, they would help everyone by explaining exactly where they are dipping their spoon into this alphabet soup of scientism.

It would be even more helpful, and hence probably too much to ask, if scientism's critics would explain how they think they are going to refute scientism. The obvious way is to directly challenge science, and prove that science can't know what it thinks it does. Few critics of scientism trouble themselves with that task nowadays. They often don't comprehend the objectionable science in the first place, and they are too proud or busy to learn. And their admiration for some non-scientific doctrine or another may be too embarrassing to defend in public. Instead, the preferred strategy, involving the least amount of preparation, goes something like this. First, throw down a challenge against some monstrous form of scientism. Second, only attack a weak version of scientism, as if hard knocks against mild scientism are sure to bring down the towering version.

It is common nowadays for a pundit to shrilly warn against Scientism S or Scientism T, and "refute" that dreaded scientism by declaring that, as any educated person should know, Scientism G or Scientism M can't be right. Bruising a meeker scientism in order to chase away the stronger one appears to run counter to common sense. Still, this strategy is applied so frequently that the anti-scientism crowd's fondness for it must have a basis somewhere. Perhaps lingering mirages from postmodernist droughts of anti-science still haze their minds. If only there was no such thing as "science"! If only no one had to take any scientist's knowledge seriously! But the fact is: if you want your anti-scientism to be taken seriously, please take science more seriously first.

There is a little method to the anti-scientism crowd's antics. Although each view on this alphabetic scientism list has some relationship with neighboring views, they aren't simply re-statements of each other. Logically, it is the case that one of these views can be correct but the others needn't be. You could accept any single view, or any subset of these views, and withhold assent from the rest without contradicting yourself. From a practical standpoint, however, accepting the scientism of one letter while denying most or all of the earlier letters is very hard to justify.

That is why scientism is usually taken to be based on prior acceptance of one or another sort of naturalism. Most of these letters, especially A through V, do coincide with various positions taken by paradigmatic naturalists over the past two centuries. If some consistent subset were selected out, there is a fair chance that a self-proclaimed naturalist has staunchly defended just that subset as the genuine kind of naturalism. A naturalist typically accepts one letter, along with most of the previous ones in the series. For example, many naturalists accept G, and hence they can endorse E or F, along with A, B, and C, and possibly D. A naturalist who endorses K or L probably endorses most of the preceding letters. Some famous naturalists agreed with only a small subset of these views, and stridently disagreed with each other over which subset is acceptable.

A defender of M but not N would hold that some kinds of biological matters will never be reducible without remainder to chemistry/physics. It may be the absence of a bridging law, or it may be about teleological explanation. Lots of matters involving consciousness or attentive reasoning, for example, may at last get their natural place with brain functionality, but they could remain invisible and unreal to physics. The fault line between M and N is the one of the greatest, sharply dividing naturalists over the past 200 years. N makes far vaster philosophical claims than just M.

Interestingly, Scientism N may represent the farthest that naturalists may go. N is a serious sort of scientism, to be sure, but at this point naturalism and scientism could part ways. Although Scientism R and Scientism S may be tempting for strict naturalists, Scientism T might go too far. Strict naturalists may not want to get involved with evaluating normative matters, or even admitting normative matters into the strictly naturalistic worldview. The strong Scientisms U through Z wouldn't be preferred by someone more comfortable with broad relativism, narrow subjectivism, emotivism, egoism, or outright nihilism.

Scientism W affirms worthiness to some scientific culture but it does not authorize displacement of rivals. E.g., we admire our American culture, but we shouldn't impose it on other continents. X endorses the complete domination of the most scientific culture over all other cultures around now. E.g., the most radical scientific culture we can imagine now should promptly be used to assimilate or degenerate all other lesser cultures around the whole world. Other cultures would be reduced to Amish-like status on reservations. Y approves of radical monoculture — utter and final assimilation of all humanity into the most radical scientific culture possible. There are huge ethical differences between W, X, Y, and Z — and these options sharply divide pro-scientism radicals already. Transhumanists are bitterly divided among them right now, and between that foursome and weaker options.