



Precis: the world philosophy made

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The book offers a historically based conception of philosophy as an essential partner of all advancing disciplines, as well as a guide to rationally pursuing virtue, meaning, and happiness. Chapter 1 explains the origin of this conception in ancient Greece, which gave us the idea that a rational examination of fundamental features of the world that makes theoretical knowledge possible can, when applied to ourselves, advance personal and collective well-being. Later chapters explore attempts to put this idea into practice. Although the book is a history of philosophy of sorts, it doesn't systematically chart who influenced whom, or provide inventories of major philosophical views. Instead, it attempts to illustrate how western philosophy has shaped our civilization.

Philosophy could do this because its boundaries with other disciplines are fluid. Today we routinely recognize this fluidity between logic and philosophical logic, mathematics and meta-mathematics and between physics/biology/psychology/economics and the philosophies of those disciplines. We also recognize the fluidity between linguistics and philosophy of language, law and philosophy of law, political theory and political philosophy, and between religion and philosophy of religion. Of course, many questions in first-order disciplines remain there, while others are central to philosophers' second-order concerns. However, there is often a continuum of questions that bear on both first and second order concerns.

Although this isn't new, the form it takes sometimes is. For centuries, it was routinely recognized that rethinking basic assumptions of a discipline to resolve paradox, avoid conceptual tangles, or back out of empirical dead ends was both philosophical and central to the discipline itself, no matter whether the thinker was more widely known as a scientist, philosopher, or theologian. Think of the physics/metaphysics of Aristotle, Galileo, Newton, Leibniz, or Einstein, the theology/

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philosophy of Aquinas, the economics *cum* philosophy of Adam Smith, or the empirical doctrines of Hobbes, Locke, Hume, and Hayek mixed with their political and social philosophies. Further examples are the mathematics/metamathematics of Frege, Gödel, Tarski, Church, and Turing, and the linguistics *cum* philosophy of mind and language of Chomsky. Philosophy has contributed so much to these investigations because it has been, and remains, intertwined with them.

My first four chapters discuss developments from the presocratics to the end of the eighteenth century. Chapters 5–10 discuss interactions between philosophy and science from the late nineteenth century to the present. Chapters 11–14 explore the role of philosophy in assessing and advancing current conceptions of politics, law, and morality, while addressing the ancient quest for virtue, meaning, and happiness in our individual lives.

1 Chapter 1: The dawn of western philosophy

Ancient Greek philosophers and mathematicians framed questions and provided concepts that made it possible to think scientifically about the world and ourselves, thereby laying the basis for logic, physics, biology, psychology, and political science. The first western university, Plato's Academy, gave us the idea of a liberal education incorporating mathematical, scientific, and humanistic studies designed to achieve both wisdom and technical proficiency. For Socrates, Plato, and Aristotle, the road to virtue and happiness required knowledge of the elements of human nature, the character of our relationships with others and the requirements of our life with them.

2 Chapter 2: A truce between faith and reason

The impact of Aristotle on Christian theology in the thirteenth century allowed philosophy to recapture its role in advancing empirical knowledge by temporarily ceding the burden of finding the meaning of life and charting a path to personal fulfillment to religion. The resulting intellectual ferment led to the scientific, logical, and philosophical work of Thomas Aquinas, Roger Bacon, and William of Ockham.

3 Chapter 3: The beginnings of modern science

The early modern period saw the overthrow of Aristotelian physics and the geocentric conception of the universe. Galileo and Newton read and contended with major philosophers; Descartes and Leibniz advanced analytic geometry, calculus, the physics of light, and our conception of space. Not only did philosophy and science often exist in the same minds, the new science faced philosophical problems—e.g., *How can a causal force act across empty space?* and *How could Newtonian laws involving absolute space be tested by observing relative motions?* Newton's ability to deal with both made him deeply philosophical. Locke and Hume

followed, producing psychologies and epistemologies intended to complement Newton's physics. Hume added a deflationary account of causation and our knowledge of it, while downplaying necessary apriorities as mere "relations of ideas," which had the effect of legitimizing scientific departures from common sense, including non-Euclidean geometry.

4 Chapter 4: Free societies, free markets and free peoples

After Hobbes grounded political authority in the social organization required to satisfy human needs, Locke contributed his influential theory of natural rights and limited representative government. Hume added benevolent social sentiments to human nature, emphasizing moral and political norms arising from voluntary institutions, evolving by trial and error, that prove, over time, to satisfy long-term interests. This line of thought culminated with Adam Smith's peon to the productivity of free markets.

5 Chapter 5: Modern logic and the foundations of mathematics

In the late nineteenth and early twentieth centuries Frege and Russell tried to show that natural numbers are sets of a certain sort and that mathematical knowledge is logical knowledge. Although they failed to do so, the new logic extended and formalized deductive reasoning in all scientific domains, while a related set theory unified mathematics. Frege's notion of *proof* also led to a kind of computation that sparked the digital age. The chapter ends with recent thoughts about how a late twentieth-century logic of plurality may help explain our arithmetical knowledge without reducing arithmetic to logic.

6 Chapters 6 and 7: Logic, computation and the scientific study of language

Chapter 6 explains how Gödel incompleteness, Tarskian model theory, Church-Turing undecidability, and Turing computation sparked the digital revolution. Chapter 7 sketches Chomsky's theory of natural language in which formal structures connect sound with meaning and then explains how philosophers added theories of meaning interacting with contextually varying information combine in fine-grained cognitive objects of assertion, belief, and knowledge.

7 Chapter 8: The science of rational choice

In 1926 the young philosopher Frank Ramsey laid the foundations of a general theory of rational decision and action based on definitions of subjective probability and agent-relative utility. Now regarded as a classic model of cost-benefit analysis

extending beyond economic, or even purely self-interested, matters, it has led to Nobel Prizes in economics on value-maximizing behavior in political, social, and economic settings.

8 Chapter 9: Mind, body, and cognitive science

The central question is whether our understanding of theoretical identities in science allows us to transcend the debate over Cartesian dualism. Although so far it hasn't, the chapter explains how it may have advanced the case for functionalist accounts of pain and perceptual experience. What about thought? Perhaps the intelligent mind is like a Turing machine, which can, by performing a sequence of tiny tasks that don't require intelligence, solve all problems that can be solved by any intelligent method. The chapter critically evaluates the ideas on these matters of Saul Kripke, Jerry Fodor and others.

9 Chapter 10: Philosophy and physics

From Aristotle onward, physical explanation has been rooted in the categories *time*, *space*, *matter* and motion. These were rethought in the late nineteenth and early twentieth centuries. Three-D Euclidean space was first to go. Then absolute time was targeted in special and general relativity, the philosophical character of which was recognized by Einstein, who credited Hume with prompting him to rethink concepts "rooted unrecognized in the unconscious." The revolution in macro physics was followed by quantum microphysics, the predictive accuracy of which coexists with deep uncertainty about underlying reality. Thus, our most fundamental science remains our deepest metaphysics.

10 Chapter 11: Liberty, justice, and the good society

The chapter compares Hayek's updating of the political and economic philosophies Hume and Smith with Rawls's philosophical grounding of the liberal welfare state. Both are contrasted with Gerald Gaus's attempt to push political philosophy in a more empirical direction by rethinking its central aims and methods.

11 Chapter 12: Laws, constitutions, and the state

Here, a philosophical view of the nature of law and its relation to morality is used to investigate the roles of judicial, executive, legislative, and unelected administrative actors in the American legal system. This is coupled with a theory of constitutional interpretation grounded in legal history and philosophy of language.

12 Chapter 13: The objectivity of morality

The chapter sketches a morality based on un-renounceable values inherent in human psycho-biology, reinforced by enduring aspects of the human condition, and shaped by social institutions. The result is an objective underlying basis for morality shaped by relativistic elements allowing for moral expansion (or retreat). Working it out is a joint project of philosophy with social science.

13 Chapter 14: Virtue, happiness and meaning in the face of death

The final chapter addresses the challenge of accepting death without believing in God, divine purpose, or eternal life.

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