

Boundless Reason, A Universal Strategy for Deciding Well

Change Archive for 2021

Changes from 20210515 to 20210619

Introduction, fifth paragraph

Added: “(multiple-frame)” to the second sentence.

Introduction, sixth paragraph

Changed “problems ring true” to “problems **that** ring true” in the last sentence.

Chapter 1, introduction, fourth paragraph

Changed “an” to “**can**” in the second sentence.

Chapter 1, *The Wisdom of Effectiveness*, sixth paragraph

Changed “learn, and learn to learn” to “learn **to set up better**, and learn to learn **better**” in the second to last sentence.

Chapter 1, *The Wisdom of Effectiveness*, seventh paragraph

Changed “invent this knowledge” to “invent this knowledge **directly**” in the second to last sentence.

Changed “**developed** a strategy for learning **how to create**” to “**invented** a strategy for **inventing**” in the last sentence.

Chapter 1, *Seeing Through Apparent Miracles*, second paragraph

Changed “**Abbot**” to “**Abbott**” in the second sentence.

Chapter 1, *An Infinitely Large Crane*, third paragraph

Changed “self-refining **processes**” to “a self-refining **process**” in the third sentence.

Chapter 1, *An Infinitely Large Crane*, fifth paragraph

Changed “an infinitely large crane, **not a skyhook**” to “**a grand strategy for building** an infinitely large crane” in the second sentence.

Changed “**approach**” to “**a grand strategy for learning**” in the fourth sentence.

Chapter 1, *The Truth of Wisdom*, second paragraph

Changed “**general** belief **about the marbles in the urn**” to “belief” in the last sentence.

Chapter 1, sixth footnote

Deleted the sentence:

“Philosophers will recognize this as the analytic versus synthetic truth distinction, which is the first of W. V. O. Quine’s two dogmas of empiricism.”

Chapter 1, eighth footnote

Changed “faceted” to “faceted **to describe the complex (multiple-frame) model of deciding well**” in the first sentence.

Chapter 1, *Ever More Complete Boundless Models*, second paragraph, second to last sentence

Inserted the sentence:

“**They also include the debts we owe the whole of life for the natural resources we need to live well.**”

Chapter 1, *Ever More Complete Boundless Models*, fourth paragraph

Changed “understand” to “**potentially** understand” in the first sentence.

Changed “**this greater**” to “**better**” in the second sentence.

Chapter 1, *The Learning Age*, first paragraph

Changed “**learning** strategy” to “**strategy for learning ever more about deciding well**” in the last sentence.

Chapter 1, *The Learning Age*, last paragraph

Changed “**ever more about deciding ever better**” to “**well**” in the last sentence.

Chapter 2, first footnote

Changed “regretted” to “regretted **as much**” in the fourth sentence.

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Chapter 3, *Overcoming Constraints in Deciding Well*, last paragraph, third and fourth sentences

“They **have more need to process information efficiently**. Statistically, they are more energetic, creative, adaptable, and **longer lived**.”

were changed to:

“They **tend to be** more energetic, creative, adaptable, and **more long-lived**. **Further, they live in cultures that have greater need for computing well**.”

Chapter 3, *Three Approaches to Policy*, last paragraph, last sentence

Inserted “, **as the best means of refining our knowledge of how best to decide well**”

Chapter 3, *The Beauty of Self-Referential Science*, first paragraph

Deleted “**(certain)**” from the last sentence.

Chapter 3, *Boundless Explanations of Quantum Mechanics*, second to last paragraph, first sentence

“As a concept for helping us explain well, it does not compete with concepts of time that help us predict well.”

was changed to:

“As a “**holistic**” concept for helping us explain well, it does not compete with “**reductionist**” concepts of time that help us predict well.”

Chapter 3, *Boundless Explanations of Quantum Mechanics*, second to last paragraph, first sentence

“As a concept for helping us explain well, it does not compete with concepts of time that help us predict well.”

was changed to:

“As a “**holistic**” concept for helping us explain well, it does not compete with “**reductionist**” concepts of time that help us predict well.”

Chapter 3, *Boundless Explanations of Quantum Mechanics*, last paragraph, first sentence

Changed “**this view**” to “**the decision class view**” in the first sentence.

Chapter 3, *Boundless Explanations of Quantum Mechanics*, last paragraph, last two sentences

“Deciding well provides us with the resources we need to change frames well. **It also provides us with the resources we need to** adapt to the resulting changes in the world.”

were changed to:

“Deciding well provides us with the resources we need to change frames well **and** adapt to the resulting changes in the world.”

Chapter 3, eighth footnote

“From **views that do not include learning**, the question is the percentage of boundlessly reasonable people needed to trigger the public analogue of phase transitions to superfluidity. We might begin to answer this question by **replicating Per Bak’s sandpile experiments using varying mixtures** of sand grains and spheres of similar size and weight. From the boundless view, we might **use computer simulations that include learning and forgetting functions**. Given our current ignorance of how best to model such processes, the results ought to take the form of sensitivity analysis. Such analysis helps us choose how best to learn to decide ever more wisely.”

was changed to:

“From **a modern view**, we might begin to **understand these phase transitions** by **replacing some of the sand grains in Per Bak’s sandpile experiments with spheres of similar size and weight**. However, this ignores **learning from the example of others**. From the boundless view, we might begin by doing sensitivity analysis of **learning, forgetting, and revealed deceit functions in agent-based computer simulations**. Such analysis can help us choose where best to invest in learning. A potentially fruitful research area concerns how **abusing reductionism hinders deciding well**. In general, engineering approaches to policymaking promote preferred behaviors; modern evolutionary approaches protect established ones. The most pernicious abuses are those in which people pursuing personal ends use reductionism to deceive others. Knowledge of boundless reason can help people see through such deceit. In game theory terms, boundless reason can help people identify **defectors in the game of deciding well (in the natural pursuit of living well)**.”

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Chapter 4, *Refining Finding Problems to Solve*, second paragraph, last three sentences

“The more beautiful problem is the latter, which calls for us to act as if free will exists. It rings truer with all that we currently know about deciding well. Acting as if free will does not exist conflicts with deciding well.” were changed to:

“The more beautiful problem is the latter, which calls for us to act as if free will exists (in seeking to disprove that free will exists). This rings truer with all that we currently know about deciding well—acting as if free will does not exist conflicts with deciding well.”

Chapter 4, *Modern Policy Mistakes*, fourth paragraph

Changed “From” to “In contrast, from” in the second sentence.

Chapter 4, *Testing the Boundless Approach*, first paragraph

Changed “set of beliefs” to “set of beliefs (as a whole)” in the last sentence.

Chapter 7, *A Normal Anomaly*, second paragraph

Changed “Brunner” to “Bruner” in the second sentence.

Chapter 7, *An Extraordinary Anomaly*, fourth paragraph, last sentence

“Implicit in this description is the idea of the game of deciding well.”

was changed to:

“Implicit in Bronowski’s description of what von Neumann sought is the idea of the game of deciding well in living well.”

Chapter 7, *An Extraordinary Anomaly*, fifth paragraph

Changed “In cybernetic terms” to “From the boundless view” in the second to last sentence.

Changed “this work” to “boundless view” in the last sentence.

Chapter 7, eighth footnote

Deleted the footnote: “⁸ Israel, G. and Gasca, A. M., *The World as a Mathematical Game*, John von Neumann and Twentieth Century Science (Basel: Birkhäuser, 2009), pp. 162–165.”

Chapter 7, May 15th ninth footnote (June 19th eighth footnote)

Changed “Ibid.” to “Giorgio Israel and Ana Millán Gasca, *The World as a Mathematical Game*, John von Neumann and Twentieth Century Science (Basel: Birkhäuser, 2009)” in the first sentence.

Chapter 7, May 15th tenth footnote

Deleted the footnote: “¹⁰ Students of Immanuel Kant may question the use of ‘transcendent’ rather than ‘transcendental’ here. Kant’s distinction is temporal. Deciding well is both timeless and self-referential. It includes an endless cycle of perceptions refining conceptions and conceptions refining perceptions. What Kant called synthetic a priori judgments are beliefs we have not yet disproven empirically.”

Chapter 7, *An Extraordinary Anomaly*, last paragraph

Changed “evolve” to “learn” in the first sentence.

Chapter 7, May 15th fourteenth footnote (June 19th twelfth footnote)

Changed “*Patterns of Conflict*” to “Ibid.” in the first sentence.

Chapter 7, May 15th seventeenth footnote (June 19th fifteenth footnote)

Changed “*Patterns of Conflict*” to “Boyd, *Patterns of Conflict*” in the first sentence.

Chapter 8, introduction, second to last paragraph

Changed “include” to “encompass” in the second sentence.

Chapter 8, introduction, last paragraph, last two sentences

“As vehicles learn, traffic becomes more fluid. As traffic becomes more fluid, the rate at which flow becomes turbulent rises.”

were changed to:

“As vehicles learn, the rate at which traffic flow becomes turbulent rises.”

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Chapter 8, first footnote

Deleted the last sentence: “Here Bronowski describes what John von Neumann sought in his unfinished study of the mathematics of reason.”

Chapter 8, Governing Our Minds Well, last paragraph

“Neurons that wire together fire together. Conscious control of our daemons may result in opening consciousness to more of our daemons. Genius may lead to madness. A grand strategy for deciding well that does not include governing our minds well is dangerously incomplete.”
was changed to:

“Conflicts between parts of our minds call for us to govern our minds well. Following in the holistic tradition of Plato, we may call the boundless end of governing our minds well Eudaemonia.² So conceived, Eudaemonia is a boundless factor of deciding well.

“Given our ignorance of deciding well, the pursuits of Happiness and Eudaemonia are not the same. We can see this in the sad ends of Georg Cantor and Kurt Gödel. The part of their minds they believed to be perfectly good would not let them give up trying to find logical solutions to open-ended problems. Cantor died in an asylum. Gödel starved himself to death. Neurons that fire together wire together. Conscious control of our daemons may result in opening consciousness to more of our daemons. Genius may lead to madness. A grand strategy for deciding well that does not include governing our minds well is dangerously incomplete.”

“² In the reductionist tradition of Aristotle, modern translations of the classical Greek term ‘eudaemonia’ include happiness, well-being, and flourishing. In the holistic tradition of Plato, ‘eudaemonia’ means having a good attending or indwelling spirit. This daemon helps us address the holistic problem of finding better problems to solve in deciding well.”

Chapter 8, first footnote

Deleted the last sentence: “Here Bronowski describes what John von Neumann sought in his unfinished study of the mathematics of reason.”

Chapter 8, Reunifying Platonic and Aristotelian Science, title

Changed to “Reunifying the Reason of Plato and Aristotle.”

Chapter 8, Reunifying the Reason of Plato and Aristotle, second to last paragraph, end

Added the sentence:

“To address this problem, the science of deciding well put forth in this work uses self-refining concepts of boundless factors of Wisdom to find problems to solve.”

Chapter 8, Reunifying the Reason of Plato and Aristotle, last paragraph

“Given the inexhaustibility of knowledge and the need for living beings to live well, the whole of science is nothing more than the process of refining everyday thinking. Conflicts between parts of our minds call for us to govern our minds well. Following Plato, we may call the boundless end of governing our minds well Eudaemonia.⁵ So conceived, Eudaemonia is a boundless factor of deciding well.⁶”

“⁵ In the reductionist tradition of Aristotle, modern translations of the classical Greek term ‘eudaemonia’ include happiness, well-being, and flourishing. In the holistic tradition of Plato, ‘eudaemonia’ means having a good attending or indwelling spirit. This daemon helps us address the holistic problem of finding better problems to solve in deciding well.”

“⁶ In the reductionist tradition of Aristotle, modern translations of the classical Greek term ‘eudaemonia’ include happiness, well-being, and flourishing. In the holistic tradition of Plato, ‘eudaemonia’ means having a good attending or indwelling spirit. This daemon helps us address the holistic problem of finding better problems to solve in deciding well.”

Chapter 8, Conclusion, first paragraph, end

Added:

“In the words of Jacob Bronowski: “If we are anything, we must be a democracy of the intellect. We must not perish by the distance between people and government, between people and power, by which Babylon and Egypt and Rome failed. And that distance can only be conflated, can only be closed, if knowledge sits in the homes and heads of people with no ambition to control others, and not up in the isolated seats of power.”⁶

“⁶ Bronowski, *The Ascent of Man*, p. 435.”

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Appendix C, The Problem of Heraclitus, second paragraph

Added: “(multiple-frame)” to the last sentence.

Appendix C, The Problem of Heraclitus, second paragraph

Added: “(multiple-frame)” to the last sentence.

References, entire document

Changed author format to less formal format.

Changed HTML reference dates from May 8 to May 15.

Corrected miscellaneous punctuation mistakes.

Changes from 20210619 to 20210901

Preface, last paragraph

Deleted last two sentences: “In refining this strategy, I found better problems to solve across a wide variety of fields: a dynamic analogue of, and alternative to, Pareto optimality, the state of the world in which it is impossible to make any person better off without making at least one other person worse off; a grand strategy superior to that used by the coalition forces in the First Gulf War; and an entropy-based concept of biological evolution that includes human culture. Such is a universal strategy for learning to decide ever better.”

Acknowledgments, fifth paragraph

Changed “throwing off” to “generating” in the second sentence.

Acknowledgments, sixth paragraph

Changed “efficiency” to “excellence” in the fourth sentence.

Introduction, fourth paragraph

Changed “, we end with” to “yields” in the third sentence.

Introduction, second to last paragraph

Changed “biological evolution” to “evolution” in the last sentence.

Chapter 1, *The Wisdom of Effectiveness*, fifth paragraph

Changed “knowledge, we cannot measure the value of knowledge” to “new knowledge, we cannot estimate its value” in the sixth sentence.

Chapter 1, *The Wisdom of Wisdom*, last paragraph

Changed “these” to “ideal” in the second to last sentence.

Chapter 1, *An Infinitely Large Crane*, fifth paragraph

Changed “approach to deciding well taken in this book” to “boundless approach to deciding well taken in this book” in the second sentence.

Chapter 1, *The Truth of Wisdom*, fourth paragraph

Removed quotation marks around “swan” in the sixth sentence.

Chapter 1, sixth footnote

Promoted the last sentence (Philosophers will recognize this as the analytic versus synthetic truth distinction, which is the first of W. V. O. Quine’s two dogmas of empiricism.) to the end of the fourth paragraph.

Chapter 1, ninth footnote

Moved footnote to the end of the paragraph.

Chapter 1, *Ever More Complete Boundless Models*, fourth paragraph

Changed “this” to “the” in the second to last sentence.

Chapter 1, *Ever More Complete Boundless Models*, last paragraph, last sentence

“For a 500-year-old depiction of this faceted approach to pursuing Wisdom, see Appendix C (Renascent Art).”

was promoted to a new paragraph and changed to:

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“From the boundless view, the further we choose to “see” into the future, the less we believe we know relative to what we do not know. In the end, all that we presume is True is the reason underlying the boundless approach. For a 500-year-old depiction of this universal form of reason, see Appendix C (Renascent Art).”

Chapter 1, The Learning Age, first paragraph

Changed “Alexander Luria” to “psychologist Alexander Luria” in the third sentence.

Chapter 2, introduction, first paragraph

“From the boundless view, living well calls for us not only to survive and thrive based on what we currently know but also to learn to survive and thrive ever better. The faster the pace of change becomes, the more important what we may learn becomes relative to what we currently know.”

was changed to:

“From the boundless view, living well calls for us to learn to live ever more wisely. The less well we can predict, the more important what we may learn becomes relative to what we currently know.”

Chapter 2, introduction, second paragraph, first two sentences

“One of the greatest current constraints in learning to survive and thrive better is using concepts derived from the modern scientific approach to economics to find problems to solve. We can see this in the EOQ/RTS example of the last chapter.”

were changed to:

“One of the most significant constraints in learning to live ever more wisely is using concepts derived from the modern scientific approach to economics to find problems to solve. We can see this in the EOQ/RTS example.”

Chapter 2, introduction, last two paragraphs

“From the boundless view, deciding well calls for timeless normative models as well as positive models.

Recursionist models help us find better problems to solve in deciding well. Marginalist models help us solve given problems by predicting well.¹

“This chapter puts forth recursionist complements to six marginalist concepts. Its primary purpose is to provide better means of “seeing” (imagining) ever better means of overcoming constraints.”

were changed to:

“The boundless approach to deciding well calls for both recursionist and marginalist models. Recursionist models help us find better problems to solve in deciding well. Marginalist models help us solve given problems by predicting well.¹ This chapter puts forth recursionist complements to the marginalist concepts of wealth, consumption, trade, production, taxation, and profit.”

Chapter 2, first footnote

Inserted “(of evolutionary economics)” into the third sentence.

Changed “regretted as much” to “regretted” in the fourth sentence.

Changed “regretted” to “regretted as much” in the fifth sentence.

Chapter 2, Tools for Pursuing Pleasure and Joy, fourth paragraph

Changed “timeless” to “timeless tools for pursuing Wisdom” in the second sentence.

Chapter 2, Tools for Pursuing Pleasure and Joy, last paragraph

Removed italics from “needs” in the third sentence.

Chapter 2, Trade, first paragraph

Changed “fairly” to “justly” in the last sentence.

Chapter 2, Three Common Mistakes, first paragraph

Changed “avoid” to “ignore” in the third sentence.

Chapter 3, introduction, last paragraph

Changed “Contemplating truly” to “From the boundless view, contemplating” in the first sentence.

Changed “Truly beautiful” to “Beautiful” in the last sentence.

Chapter 3, Overcoming Constraints in Deciding Well, second to last paragraph

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Changed “No” to “For example, no” in the third sentence.

Changed “approach” to “approach to overcoming constraints” in the last sentence.

Chapter 3, *Overcoming Constraints in Deciding Well*, last paragraph, third sentence

Inserted the sentences:

“They tend to be more energetic, creative, adaptable, healthy, and long-lived. Further, they create cultures that have greater need for computing well.”

Chapter 3, *Overcoming Constraints in Deciding Well*, second to last paragraph

Changed “promotes” to “is that of” in the last sentence.

Deleted “, as the best means of refining our knowledge of how best to decide well” from the last sentence.

Chapter 3, *Three Approaches to Public Order*, first paragraph

Changed “solve public” to “solve what they believe are public” in the second sentence.

Chapter 3, *Public Entropy*, first paragraph

Inserted the paragraph: “Our ignorance of how best to decide well is part of the world. Overcoming this ignorance calls for changing the frames we use to predict and explain the world. Doing so provides us with the resources we need to decide well, which includes not only refining frames well but also adapting to the resulting changes well.”

Chapter 3, *Public Entropy*, new second paragraph

Changed “dynamic analogue of and boundless alternative to” to “boundless analogue of and alternative to” in the last sentence.

Chapter 3, *Public Entropy*, second to last paragraph

Changed “In considering waste in deciding well” to “In refining these descriptions” in the first sentence.

Chapter 3, *Public Entropy*, last paragraph

“We can use the concept of public entropy to help us learn ever more about how best to remove waste from our belief systems. Removing waste from our belief systems is like removing excess work-in-process inventory from a Toyota production line. In both cases, we remove waste from the process of deciding well.”

was deleted.

Chapter 3, *The Beauty of Self-Referential Science*, last paragraph, third through last sentences

“Hence, investing in a research program to discover a way of communicating at greater than light speed would be foolish. From the boundless view, given the discounted certainty equivalent of the research program is negative, investing in it at this time would be foolish. The better formal problem to solve is the decision science problem. It rings truer with all that we currently know about deciding well.”

were changed to:

“Hence, investing in a research program to create a way of communicating at greater than light speed would be foolish. From the boundless view, given the discounted certainty equivalents of all faster-than-light-communication research programs are currently negative, investing in any such program would be foolish at this time. Because the decision science problem rings truer with all that we currently know about deciding well, it is the better problem to solve.”

Chapter 3, *Boundless Explanations of Quantum Mechanics*, second paragraph

Changed “when they interact but like waves when they do not interact.” to “at times and waves at other times” in the third sentence.

Chapter 3, *Boundless Explanations of Quantum Mechanics*, second to last paragraph, last sentence

“As a “holistic” concept for helping us explain well, it does not compete with “reductionist” concepts of time that help us predict well.”

was changed to:

“As a tool for explaining well, this concept of time does not compete with concepts of time for predicting well.”

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Chapter 3, *Boundless Explanations of Quantum Mechanics*, last paragraph

“We can use the concept of public entropy to help us learn ever more about how best to remove waste from our belief systems. Removing waste from our belief systems is like removing excess work-in-process inventory from a Toyota production line. In both cases, we remove waste from the process of deciding well.”
was deleted.

Chapter 3, *Expect Sudden Transitions to More Fluid Cultures*, first paragraph

Changed “Further” to “Now” in the fourth sentence.

Chapter 3, *Expect Sudden Transitions to More Fluid Cultures*, first paragraph, last sentence

“The cause of these transitions concerns not only wisdom but also the “beautiful” examples wisdom provides.”

were changed to:

“The cause of this “phase change” concerns not only the wisdom of seasoned soldiers but also the “beautiful” examples they provide.”

Chapter 3, *Expect Sudden Transitions to More Fluid Cultures*, footnote

Changed “revealed” to “revealing” in the second sentence.

Chapter 4, *Academic Fields*, second paragraph

Changed “the tendency of modern views to blind us to our need to pursue the boundless factors of deciding well” to “this blindness” in the first sentence.

Chapter 4, *Academic Fields*, fourth paragraph

Changed “our cultural evolution from biological evolution” to “refining everyday thinking from evolution” in the last sentence.

Chapter 4, *Academic Fields*, last paragraph

Changed “complex” to “complex (multiple-frame)” in the first sentence.

Chapter 4, *Refining Finding Problems to Solve*, second paragraph, last two sentences

“The more beautiful problem is the latter, which calls for us to act as if free will exists (in seeking to disprove that free will exists). This rings truer with all that we currently know about deciding well—acting as if free will does not exist conflicts with deciding well.”

were changed to:

“The more beautiful problem is the latter, which calls for us to act as if free will exists. Acting as if free will does not exist conflicts with deciding well.”

Chapter 4, *Modern Policy Mistakes*, fourth paragraph

Changed “In contrast, from” to “From” in the second sentence.

Chapter 4, *Modern Policy Mistakes*, sixth paragraph

Changed “less” to “less resources” in the third sentence.

Changed “more resources” to “more” in the fourth sentence.

Chapter 4, *Testing the Boundless Approach*, first paragraph

Changed “beliefs (as a whole)” to “beliefs” in the last sentence.

Chapter 5, *The Explicit Experiment*, third paragraph

Changed “experiment” to “freedom-based experiment” in the second sentence.

Chapter 5, *The Explicit Experiment*, fourth paragraph, first two sentences

“The story put forth in the Declaration of Independence’s preamble is not the only United States sovereign-rights story. The United States Constitution offers an agnostic story in the form of a social contract.”

were changed to:

“The Declaration story is not the only United States’ sovereign-rights story. The Constitution offers an agnostic story in the form of a social contract.”

Chapter 5, *A Sovereign Story for Deciding Well*, fourth paragraph

Changed “him” to “his philosophy” in the fourth sentence.

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Chapter 5, *Judge Interventions*, second paragraph

Changed “owners” to “landlords” in the last sentence.

Chapter 5, *Promote Savings for Welfare*, last paragraph

Changed “running a state religion based on either pseudoscience or revealed truth” to “establishing a state religion” in the last sentence.

Chapter 6, introduction, second paragraph

Changed “many” to “most” in the second sentence.

Chapter 6, Schweitzer’s Mystical Oneness, last paragraph

Changed “, which” to “that” in all (2 occurrences).

Chapter 6, Worldly Benefits of Detachment, second paragraph

Changed “overwhelming task” to “potentially overwhelming task” in the fourth sentence.

Chapter 6, Worldly Benefits of Detachment, last paragraph

Changed “system of beliefs” to “belief systems” in the second sentence.

Chapter 6, Experiencing Mystical Oneness, first paragraph, first two sentences

“Deciding well calls for us to use our current mental models of the world. Deciding well also calls for us to create ever better models of the world.”

were changed to:

“From the boundless view, deciding well calls for us to create ever better models of the world.”

Chapter 6, Einstein’s Twin Warnings, second paragraph

Changed “Theistic” to “Most theistic” in the first sentence.

Chapter 6, Einstein’s Twin Warnings, last paragraph

Changed “decide well, believe well, and live well” to “follow the path of deciding well, believing well, and living well” in the first sentence.

Chapter 7, *A Normal Anomaly*, second paragraph

Changed “Jerome Bruner and” to “psychologists Jerome Bruner and” in the second sentence.

Chapter 7, *An Extraordinary Anomaly*, first paragraph

Changed “common ground” to “common ground for cooperating well” in the first sentence.

Changed “compete well by finding common ground” to “seek to find such ground” in the second sentence.

Chapter 7, *An Extraordinary Anomaly*, third paragraph

Changed “completely explain” to “prove all true statements in” in the first sentence.

Chapter 7, *An Extraordinary Anomaly*, first paragraph

Changed “cybernetics, the science of goal-seeking” to “the science of goal-seeking (*cybernetics*)” in the first sentence.

Chapter 7, The Scope of Strategy, first paragraph, second through second to last sentences

“In the game of Reversi (Othello), the boundaries protect the corner positions from attack. At the Battle of Thermopylae, boundaries defined by the Athenian-controlled Gulf of Malia and the shoreline cliffs protected the Spartans and their allies from attack from the north and south. To compete well, we also need to consider the temporal boundaries that define the field. The most important development in strategic thinking in the second half of the twentieth century was the idea of competing well by deciding well more quickly than competitors decide.”

were changed to:

“For example, at the Battle of Thermopylae, boundaries defined by the Athenian-controlled Gulf of Malia and the shoreline cliffs protected the Spartans and their allies from attacks from the north and south. To compete well, we also need to consider the temporal boundaries that define the field. In the second half of the twentieth century, the most important development in strategic thinking was the idea of deciding well more quickly than competitors do. In terms of boundaries, this concerns getting closer than competitors to the boundary formed by the flow of time.”

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Chapter 7, The Grandest Possible Strategy, last two paragraphs

“To compete well, we need to consider the moral boundaries **that define the field. People who adopt a grander strategy take higher moral ground.** In taking **this** ground, **they** tend to be more successful in “attracting the uncommitted, in magnifying their own spirit and strength, and in undermining the dedication and determination of their adversaries.”

“From the boundless view, the **grandest possible strategy is deciding well, which calls for making our national goal deciding well. It** also calls for keeping Abraham Lincoln’s faith that right makes might.”

were changed to:

“To compete well, we need to consider moral **as well as spatial and temporal** boundaries. In taking **higher moral** ground, **people** tend to be more successful in “attracting the uncommitted, in magnifying their own spirit and strength, and in undermining the dedication and determination of their adversaries.”

“From the boundless view, the **highest moral ground is the grand strategy for deciding well described in this work. In light of the constraints we face in knowing the right,** it also calls for keeping Abraham Lincoln’s faith that right makes might.”

Chapter 7, The Scope of Biological Evolution, title

Deleted “**Biological**” from title.

Chapter 7, The Scope of Evolution, first paragraph, last sentence

“**We distinguish between biological and cultural evolution.**”

was changed to:

“**To prevent logical contradictions that arise from self-reference, we do not apply the process of refining everyday thinking to itself. We exclude refining everyday thinking from refining everyday thinking.**”

Chapter 7, The Scope of Evolution, second paragraph, second through fourth sentences

“Our national goal is **the grand strategy of** deciding well using the boundless approach. We recognize that what happens to us may change how our genes and our yet unborn descendants’ genes work. **We also recognize that our genetics and culture coevolve.**”

were changed to:

“Our national goal is deciding well using the boundless approach. We recognize that **the process of refining everyday thinking applies to itself.** We **also** recognize that what happens to us may change how our genes and our yet unborn descendants’ genes work.”

Chapter 7, last footnote, second through fourth sentences

“**One of the most important discoveries arising from** this claim is the microbiome theory of disease, which states that microorganisms living on and in hosts play essential roles in maintaining host health. This theory has opened new opportunities for both preventing disease and slowing aging. **It** has also opened new possibilities for food processors to create products that cause food addictions.”

were changed to:

“**Related to** this claim is the microbiome theory of disease, which states that **some** microorganisms living on and in hosts play essential roles in maintaining host health. This theory has opened new opportunities for both preventing disease and slowing aging. **Unfortunately, it** has also opened new possibilities for food processors to create products that cause food addictions.”

Chapter 7, The Scope of Evolution, last paragraph

Changed “**biological** evolution” to “evolution” in the second sentence.

Chapter 8, introduction, sixth paragraph

Changed “**an ideal**” to “**the best**” in the second sentence.

Chapter 8, Governing Our Minds Well, last paragraph, sixth sentence

“**Neurons the fire together wire together.**” was deleted.

Chapter 8, Reunifying the Reason of Plato and Aristotle, last paragraph

Changed “**ourselves**” to “**our minds**” in the first sentence.

Chapter 8, fourth footnote

Changed “governing people well” to “**for** governing people well” in the second to last sentence.

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Appendix A, introduction, second from last paragraph, second to last sentences

“Rather than a many-sided polygon, this object may be a circle **or an apeirogon (a polygon having an infinite number of sides)**. Applying the first transformation process to a circle yields a circle. **Similarly, an apeirogon yields an apeirogon.** In contrast, the second process produces a closed left-hand semicircle **and a closed left-hand semi-apeirogon.**”

were changed to:

“Rather than a many-sided polygon, this object may be **either an apeirogon (a polygon having a countably infinite number of sides) or a circle**. Applying the first transformation process to **an apeirogon yields an apeirogon, and to a circle yields a circle**. In contrast, the second process yields a closed left-hand **semi-apeirogon and a closed left-hand** semicircle.”

Appendix A, The Big Picture, third paragraph

Reversed order of circles and apeirogons in all tables.

Changed “**Replace** the rightmost vertex and its sides with a line segment connecting its adjacent vertices.” to “**For polygons, replace** the rightmost vertex and its sides with a line segment connecting its adjacent vertices. **For circles, remove the rightmost point.**” in the first case line of the third table.

Appendix B, introduction, first paragraph

“From the **boundless** view, producing well is **a matter of producing wealth** ever more wisely. **In complex production systems, this process has** two steps. The **first** step is replacing scarce non-knowledge resources with knowledge in some part of the system. The second **step** is adapting other parts of the system to this change. The following uses the metaphor of folding and smoothing to explain Taiichi Ohno’s approach to this two-step process.”

was changed to:

“From the **modern** view of **marginalist economics, factories are great machines in which people are interchangeable parts. The goal is producing ever more efficiently.** From the **boundless** view, **factories are learning organisms in which people are the most important part, the part that learns. The goal is producing ever more wisely. We may think of producing wisely as having** two steps. The first is replacing scarce non-knowledge resources with knowledge in some part of the system. The second is adapting other parts of the system to this change. The following uses the metaphor of folding and smoothing to explain Taiichi Ohno’s approach to this two-step process.”

Appendix B, *Machine Tools*, first paragraph

Changed “Production equipment and **small storage areas**” to “Production equipment (**machine tools** and conveyance equipment)” in the second sentence.

Appendix B, *Machine Tools*, third paragraph

“From the **modern scientific view of management and economics, factories are great machines in which people are interchangeable parts. The goal is efficient production. From the boundless view, factories are learning organisms in which people are the most important part, the part that learns. The goal is wise production.** Rather than trying to get the most out of each machine tool, team leaders try to get the most out of each full day’s work. A full day’s work is the effort a team member can put forth over a long period without ill effect.”

was appended to the second paragraph and changed to:

“Rather than trying to get the most out of each machine tool, team leaders try to get the most out of each full day’s work. A full day’s work is the **daily** effort a team member can put forth over a long period without ill effect.”

Appendix B, *Machine Tools*, fifth (new fourth) paragraph

Changed “**cheap**” to “**inexpensive**” in the third sentence.

Appendix B, *Machine Tools*, sixth (new fifth) paragraph

Changed “**cheap**” to “**inexpensive**” in the fourth sentence.

Appendix B, *Machine Tools*, seventh (new sixth) paragraph

Changed “**cheap**” to “**low-cost**” and “**only one**” to “**a single**” in the second sentence.

Changed “**cheap**” to “**low-cost**” in the third sentence.

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Appendix B, *Production Links*, third paragraph

Changed “worker” to “team member” in all (three occurrences).

Appendix B, *Inducing the Creation of Knowledge*, last paragraph

Changed “worker” to “team member” in the fourth sentence.

Appendix B, *Less is More*, first paragraph

Removed parentheses around “of products for sale” in the sixth sentence.

Appendix C, *Inducing the Creation of Knowledge*, last paragraph

Changed “worker” to “team member” in the fourth sentence.

Appendix C, *Black Clouds in Theology*, second paragraph

Changed “(with its rope in the theology wedge)” to “with its rope clearly in the theology wedge” in the seventh sentence.

Changed “(with its rope in the fire wedge)” to “with its rope clearly in the fire wedge” in the eighth sentence.

Appendix C, *A Boundless View of the Whole*, last paragraph, first sentence

“We can find these two mindsets personified in Aristotle and Plato’s figures at the philosophy wall’s center.” was changed to:

“We can find these two types of mindsets personified in the figures of Plato and Aristotle at the philosophy wall’s center.”

Appendix A, *Imagining the Chief Designer*, second paragraph, last two sentences

“To do so well, you needed to show the logical relations between facets of Holy Wisdom and the virtually logical relations between these boundless ends’ pursuits near their limits. You also needed to show that we lack the knowledge to pursue these boundless ends rationally.”

was changed to:

“To do so well, you needed to show the logical relations between perfectly known factors of deciding well while showing that we lack the knowledge to pursue these boundless ends rationally.”

Appendix A, *The Problem of Heraclitus*, last paragraph, first sentence

“The image on the left represents Plato and Aristotle’s philosophy; the one on the right represents Protagoras and Vitruvius’s sophistry.”

was changed to:

“The image on the left represents Plato and Aristotle’s philosophy, their love of Wisdom; the one on the right represents Protagoras and Vitruvius’s sophistry, their apparent Wisdom.”

Changes from 20210901 to 20210925

Chapter 1, *Choosing Frames Well*, second paragraph, third and fourth sentences

“One way is to think about the way we overcome constraints in pursuing our ends. These constraints include scarcity of such factors as time, knowledge resources, and material resources.”

was changed to:

“One way is to think about how we overcome scarcity of time, knowledge resources, and material resources.”

Chapter 3, *Boundless Explanations of Quantum Mechanics*, last paragraph

Changed “explaining well” to “explaining how best to decide well” in the last sentence.

Chapter 5, *Judge Interventions*, last paragraph

Changed “local farmers” to “the politically powerful and the bureaucracies that serve them” in the sixth sentence.

Chapter 5, *Promote Public Welfare*, third paragraph

Changed “Policymakers” to “Bureaucracies” in the third sentence.

Chapter 5, *Liberalism*, first paragraph, second through fourth sentences

“Given the key role that liberty plays in the boundless approach, we may call its civil faith *boundless liberalism*.

The desire for boundless liberalism is not new. During a war that started in his boyhood home of Boston and

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spread across the world, Benjamin Franklin wrote the following to Joseph Priestley, who was then living in the enemy city of Birmingham, England:”

were changed to:

“Given the key role that liberty plays in the boundless approach to deciding well in living well, we may call its civil faith *boundless liberalism*. In putting our faith in science as a process, we put our faith in freedom, cooperation, and self-interest enlightened by boundless reason.

“The desire for boundless liberalism is not new. During a war that started in his boyhood home of Boston and spread across the world, Benjamin Franklin wrote the following to fellow amateur scientist Joseph Priestley, who was then living in the enemy city of Birmingham, England:”

Chapter 8, *Governing Our Minds Well*, last paragraph, second through fifth sentences

“We can see this in the sad ends of Georg Cantor and Kurt Gödel. The part of their minds they believed to be perfectly good would not let them give up trying to find logical solutions to open-ended problems. Cantor died in an asylum. Gödel starved himself to death. Conscious control of our daemons may result in opening consciousness to more of our daemons. Genius may lead to madness.”

were changed to:

“Opening our daemons to consciousness may result in opening consciousness to our daemons. Genius may lead to madness. We can see this in the sad ends of Georg Cantor and Kurt Gödel. The daemons they believed to be perfectly good would not let them give up searching for logically consistent and complete solutions to open-ended problems. Cantor died in an asylum. Gödel starved himself to death.”

Chapter 8, *Reunifying the Reason of Plato and Aristotle*, last paragraph, end

Added the sentence:

“The science of deciding well put forth in this work addresses this bounds-blindness problem.”

Appendix A, introduction, third to last paragraph, first sentence

“If we used our first scheme for representing objects, this sequence would make little sense: R8, I5, R7, I6, R6, I5, R5, I4, R4, I3, R3.”

was changed to:

“If we used our first scheme for representing objects, this sequence (R8, I5, R7, I6, R6, I5, R5, I4, R4, I3, R3) would make little sense.”

Appendix A, The Big Picture, third paragraph, first table

Deleted “(aleph one)” from the real number entry.

Appendix A, Ideal Forms, third paragraph

Changed “his postmodern view” to “Gödel’s view” in the third sentence.

Appendix C, *Imagining the Chief Designer*, third paragraph

Changed “octagonal oculus” to “octagonal oculus centered on a circle” in the first sentence.

Changes from 20210925 to 20211115

Introduction, seventh paragraph, third sentence

Deleted the ending clause: “, which we may think of as transformations of world views).”

Chapter 1, *Choosing Frames Well*, second paragraph, third and fourth sentences

“One way is to think about the way we overcome constraints in pursuing our ends. These constraints include scarcity of such factors as time, knowledge resources, and material resources.”

was changed to:

“One way is to think about how we overcome scarcity of time, knowledge resources, and material resources.”

Chapter 1, *Ever More Complete Boundless Models*, last paragraph, last two sentences

“In the end, all that we presume is True is the reason underlying the boundless approach. For a 500-year-old depiction of this universal form of reason, see Appendix C (Renascent Art).”

was changed to:

“In the end, all that we presume is True in the science of deciding well is the reason underlying it. For a 500-year-old depiction of an instance of this universal form of reason, see Appendix C (Renascent Art).”

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Chapter 2, introduction, first paragraph, last sentence

“The less well we can predict, the more important what we may learn becomes relative to what we currently know.”

was deleted.

Chapter 2, introduction second paragraph

Changed “in deciding well” to “in deciding well in the timeless pursuit of living well” in the second to last sentence. Appended paragraph to the preceding paragraph.

Chapter 2, introduction, last paragraph

Changed “deciding well” to “deciding well in living well” in the first sentence.

Chapter 2, introduction, last paragraph, footnote, second through last sentences

“Controversy over this claim made this essay the most cited paper in economic literature. Some of the harshest criticisms came from members of the Austrian School (of evolutionary economics). When asked whether he regretted not criticizing his friend John Maynard Keynes’ General Theory, F. A. Hayek said he did. He added he regretted as much not criticizing Essays in Positive Economics, which he thought was “quite as dangerous a book” (Hayek on Hayek: An Autobiographical Dialogue, Chicago: University of Chicago Press, 1994, p. 145). From the boundless view, Friedman accepted the modern concept of science as a product rather than the process of refining everyday thinking.”

were changed to:

“Because normative models provide more personal power and prestige than positive ones, this claim was sure to face tremendous resistance. The resulting controversy made this essay the most cited paper in economic literature. Some of the harshest criticisms came from members of the Austrian School of evolutionary economics. When asked whether he regretted not criticizing his friend John Maynard Keynes’ General Theory, Austrian economist F. A. Hayek said he did. He added he regretted as much not criticizing Essays in Positive Economics, which he thought was “quite as dangerous a book” (Hayek on Hayek: An Autobiographical Dialogue, Chicago: University of Chicago Press, 1994, p. 145). From the boundless view, Friedman needed a supplementary normative model based on pursuing the timeless end of living well. For this, he needed to address the problem of self-reference in the science of forms, hence the whole of science:”

Chapter 3, Boundless Explanations of Quantum Mechanics, last paragraph

Changed “explaining well” to “explaining how best to decide well” in the last sentence.

Chapter 3, Boundless Explanations of Quantum Mechanics, last paragraph

Changed “exist” to “cease exist for living beings bound to live well in the flow of time” in the third sentence.

Chapter 5, Judge Interventions, last paragraph

Changed “local farmers” to “the politically powerful and the bureaucracies that serve them” in the sixth sentence.

Chapter 5, Promote Public Welfare, third paragraph

Changed “Policymakers” to “Bureaucracies” in the third sentence.

Chapter 5, Liberalism, first paragraph, second through fourth sentences

“Given the key role that liberty plays in the boundless approach, we may call its civil faith *boundless liberalism*.

The desire for boundless liberalism is not new. During a war that started in his boyhood home of Boston and spread across the world, Benjamin Franklin wrote the following to Joseph Priestley, who was then living in the enemy city of Birmingham, England:”

were changed to:

“Given the key role that liberty plays in the boundless approach to deciding well in living well, we may call its civil faith *boundless liberalism*. In putting our faith in science as a process, we put our faith in freedom, cooperation, and self-interest enlightened by boundless reason.

“The desire for boundless liberalism is not new. During a war that started in his boyhood home of Boston and spread across the world, Benjamin Franklin wrote the following to fellow amateur scientist Joseph Priestley, who was then living in the enemy city of Birmingham, England:”

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Chapter 8, *Governing Our Minds Well*, last paragraph, second through fifth sentences

“We can see this in the sad ends of Georg Cantor and Kurt Gödel. The **part of their minds** they believed to be perfectly good would not let them give up trying to find logical solutions to open-ended problems. Cantor died in an asylum. Gödel starved himself to death. **Conscious control of our daemons may result in opening consciousness to more of our daemons. Genius may lead to madness.**”

were changed to:

“**Opening our daemons to consciousness may result in opening consciousness to our daemons. Genius may lead to madness.** We can see this in the sad ends of Georg Cantor and Kurt Gödel. The **daemons** they believed to be perfectly good would not let them give up searching for logically consistent **and complete** solutions to open-ended problems. Cantor died in an asylum. Gödel starved himself to death.”

Chapter 8, *Reunifying the Reason of Plato and Aristotle*, last paragraph, end

Added the sentence:

“**The science of deciding well put forth in this work addresses this bounds-blindness problem.**”

Appendix A, introduction, fourth paragraph, first sentence

Changed “transformation process” to “**complex (multiple-step)** transformation process.”

Appendix A, introduction, fifth paragraph

Deleted “**(multiple-step)**” from the first sentence.

Appendix A, introduction, seventh paragraph, second to last sentence

Changed “transformation process” to “**complex** transformation process.”

Appendix A, introduction, third to last paragraph, first sentence

“If we used our first scheme for representing objects, this sequence would make little sense: **R8, I5, R7, I6, R6, I5, R5, I4, R4, I3, R3.**”

was changed to:

“If we used our first scheme for representing objects, this sequence (**R8, I5, R7, I6, R6, I5, R5, I4, R4, I3, R3**) would make little sense.”

Appendix A, The Big Picture, third paragraph, first table

Deleted “**(aleph null)**” from the counting number entry.

Appendix A, The Big Picture, third and fourth tables

Changed “All geometric **representations**” to “All **three** geometric **sequences**” in the last entry of both tables.

Appendix C, *Imagining the Chief Designer*, third paragraph

Changed “octagonal oculus” to “octagonal oculus **centered on a circle**” in the first sentence.

Changes from 2021115 to 20211231

Preface, second paragraph

Changed “**replacing scarce non-knowledge resources with**” to “**creating**” in the third to last sentence.

Chapter 3, *Boundless Explanations of Quantum Mechanics*, last paragraph

Changed “view” to “view of science **as the process of refining everyday thinking**” in first sentence.

Parenthesized “**for living beings bound to live well in the flow of time**” in the third sentence.

Chapter 4, introduction, last paragraph

Changed “from within **their respective frames**, we ought to choose **the description** that rings truest” to “from within **themselves**, we ought to choose **those** that ring truest” in the fourth sentence.

Chapter 4, introduction second paragraph

Changed “in deciding well” to “in deciding well **in the timeless pursuit of living well**” in the second to last sentence. Appended paragraph to the preceding paragraph.

Chapter 4, Self-similarity, first paragraph

Changed “what we choose” to “what **scale** we choose” in the second sentence.

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Changed “When we choose a problem” to “In choosing a problem to solve” in the third sentence.

Chapter 5, Good Policies, first paragraph, footnote

Changed “presently” to “currently” in the last sentence.

Chapter 8, introduction, first paragraph

Changed “discover or invent ever better means of replacing scarce non-knowledge resources with knowledge resources” to “create knowledge resources useful” in the second sentence.

Chapter 8, introduction, second paragraph

Changed “discovering or inventing better means of replacing scarce non-knowledge resources with knowledge resources” to “doing so” in the first sentence.

Changed “knowledge resources” to “knowledge resources in living well” in the second sentence.

Chapter 8, introduction, fifth paragraph

Changed “in deciding well” to “well” in the second sentence.

Chapter 8, introduction

Merged first and second paragraphs; merged third and fourth paragraphs.

Appendix A, introduction, sixth paragraph

Changed “results” to “products (results)” in the first sentence.

Changed “result” to “product of the step” in the last sentence.

Appendix A, balance of the chapter

Changed “result” to “product” (4 occurrences).

Appendix A, Ideal Forms, first paragraph

Added two more terms to each of the parenthesized sequences..

Appendix A, Ideal Forms, last paragraph, footnote

Added “(transcendental phenomenology as rigorous science)” to the second sentence.

Changed “He” to “However, he appears to have”, “deciding well” to “this pursuit”, and “ability and capability” to “capacity” in the last sentence.
