

METAPHYSICS – AN OVERVIEW

Basic Concepts, Methods, Issues, Questions, and Arguments

Topic I. What Is Metaphysics?

A Definition of Metaphysics: Metaphysics is the philosophical investigation of the ultimate nature of reality.

Some Basic Types of Questions in Metaphysics: (1) Questions concerning reality as a whole; (2) Questions concerning things that must be true of absolutely everything that exists; (3) Questions concerning possibilities for existence; (4) Questions concerning fundamental aspects of contingent things; (5) Questions concerning the nature of human beings.

The Problem of Method in Metaphysics: Science, especially physics, is also concerned with arriving at knowledge of the ultimate nature of reality. How do the methods used in metaphysics relate to, and differ from, the methods used in science? Is metaphysics a legitimate discipline, rather than pure speculation, or armchair science?

Methods Used in Metaphysics, and Some Examples: (1) The appeal to what one can imagine – where imagining some state of affairs involves forming a vivid image of that state of affairs. (2) The appeal to what one cannot imagine. (3) The appeal to what one can coherently conceive. (4) The appeal to what one cannot coherently conceive. (5) The appeal to intuitions about what is logically possible, or logically impossible, to support claims about what really is logically possible, or logically impossible. (Comment: Appeals of these five sorts occur, for example, in connection with the evaluation of proposed analyses of concepts, and in connection with attempts to formulate truth conditions.) (6) Conceptual analysis (7) The proof of propositions using logic alone. (Bertrand Russell and (a) the non-existence of set of all sets that do not belong to themselves, and (b) the non-existence of a set of all sets) (8) The proof of propositions using logic plus conceptual analysis. (Analytic truths as derivable from logical truths in the narrow sense by the substitution of synonymous expressions.) (Examples: A cause cannot succeed its effect. All properties are completely determinate.) (9) The use of inference to the best causal explanation. (Examples: God; other minds) (10) The use of inference to the best non-causal explanation. (Examples: Laws of nature; causal relations) (11) The use of a system of logical probability to show that certain things are likely to be the case, or that certain things are unlikely to be the case. (12) The use of inference to the best account of the truth conditions of some statement. (The idea of a robust correspondence theory of truth) (Example: David Lewis's account of the truth conditions of statements about possibilities.) (13) The appeal to direct acquaintance. (Example: The existence of emergent, sensuous properties)

The Status of Metaphysical Truths, and Questions of Method: Are some metaphysical propositions merely contingently true? If so what methods can be used to establish such contingent truths? Are some metaphysical propositions necessarily true? What methods are appropriate in such cases?

Truthmakers and Metaphysical Propositions: Do all true statements require truthmaking states of affairs that are external to the statements? What about logically true, or analytically true statements? (Compare Lewis's postulation of possible worlds to supply truthmakers for modal statements.)

Topic II. Identity and Persistence

Two Important Preliminary Distinctions: (1) Qualitative identity versus numerical identity; (2) Numerical identity versus the unity relation.

The Definition of Numerical Identity: (1) Numerical identity is a purely logical relation; (2) Numerical identity can be defined via introduction and elimination rules.

A Potentially Misleading Way of Talking: "synchronic identity" versus "diachronic identity". Identity is not a cross-temporal relation.

Realist versus Reductionist Accounts of the Synchronic Unity Relation: (1) What makes it the case that two property instances that exist at the same time belong to one and the same thing? (2) Is the synchronic unity relation unique and unanalyzable, or is it analyzable? (3) Is it reducible, for example, to nomological connections between property instances? (4) Or does the synchronic unity relation have to be analyzed in terms of causal relations to property instances that exist at earlier times?

Realist versus Reductionist Accounts of the Diachronic Unity Relation: (1) What makes it the case that two property instances that exist at different times belong to one and the same persisting thing? (2) Is the diachronic unity relation unique and unanalyzable, or is it reducible, for example, to causal connections of an appropriate sort? (3) Causal connections as a necessary condition of the presence of the unity relation: Armstrong's annihilation/creation case. (4) Are all questions of identity settled once all causal relations are settled? (5) The issues raised by fission and fusion cases.

The Diachronic Unity Relation and the Definition of Persisting Entities: (1) The diachronic unity as a relation not between temporal parts, but between property instances existing at different times; (2) Fission and fusion cases show that the diachronic unity relation cannot be both symmetric and transitive, whereas identity is; (3) Can one define a persisting entity ("identity over time") in terms of property instances that are related via a non-branching unity relation?

Topic III. Personal Identity

Personal Identity - Realist and Reductionist Alternatives: (1) The diachronic unity relation is an irreducible relation, both in the case of persons, and in the case of inanimate objects; (2) The diachronic unity relation is an irreducible

relation in the case of immaterial egos, and so there would be a fact of the matter in fission cases; (3) Bodily identity is a necessary and sufficient condition of personal identity; (4) Brain identity is a necessary and sufficient condition of personal identity; (5) The unity relation is a matter of relations between occurrent psychological states; (6) The unity relation is a matter of relations between psychological states, both occurrent states and underlying powers; (7) The unity relation is a matter of relations between psychological states, both occurrent states and underlying powers, and also a matter of those states' being instantiated in the same underlying stuff, where the latter might be either the same brain, or the same immaterial substance.

Important Thought Experiments and Test Cases: (1) Interchanging psychological states between different brains; (2) The transference of psychological states and powers to a different immaterial substance; (3) The destruction of all psychological states, together with the continued existence of brain and body; (4) Shoemaker's brain transplant case; (5) The case where one hemisphere is destroyed; (6) The case where one hemisphere is destroyed, and the other hemisphere is transplanted; (7) The case where both hemispheres are transplanted into different bodies; (8) Derek Parfit's fusion cases; (9) The reprogramming case; (10) Teletransportation cases, (a) with the same matter arranged the same way, (b) with the same matter arranged a different way, and (c) with completely different matter.

Issues Raised by Derek Parfit: (1) Is it possible to make sense of the notion of "surviving" in a case where the resulting person is not identical with the original person? (2) Must there always be a true answer to any question concerning identity in any conceivable case? (3) Is identity an important matter? (4) Is what matters an all-or-nothing matter, or a matter of degree? (5) Can one set out an account of memory, which is such that it is not an analytic truth that if A has a memory of experience E, then E is an experience that A had? (6) Can all mental states be described impersonally - that is, in a way that does not presuppose the existence of any person at all? (7) Does personal identity just consist in bodily and psychological continuity, or is it a further fact, independent of the facts about these continuities? (8) If there is a further fact, is it (a) a deep fact, and (b) an all-or-nothing fact?

Topic IV. The Nature of the Mind

Some Important Issues: (1) What account is to be given of the very concept of a mind? (2) What type of analysis is to be given of statements about different types of mental states? (3) Are there any significant divisions between types of mental states, in the sense that a very different type of account might have to be given for some types of mental states than others? (4) What is the "mark" of the mental? That is to say, what is it that distinguishes states of affairs that are mental states from those that are not? (Consciousness and intentionality as two important answers.)

Four Different Accounts of the Analysis of Mental Concepts: (1) One anti-reductionist approach: a "raw feel", or "qualia", or phenomenalist account; (2) A second anti-reductionist approach: intentionality as a defining property of mental states; (3) Analytical, or logical, behaviorism; (4) Functionalism, and the identification of mental states (primarily) on the basis of their causal roles, rather than on the basis of their intrinsic natures. The computer program analogy.

Three Main Families of Views Concerning the Nature of the Mind:

(1) Physicalistic views of a reductionist sort; (2) Non-physicalistic views; (3) Emergent physicalism.

Physicalistic Views of a Reductionist Sort: (1) Analytical behaviorism: concepts of mental states are to be analyzed in terms of behavior – both actual behavior and behavioral dispositions; (2) Mind-brain identity theory: This involves (a) a functionalist account of the mind, and of mental states; (b) an identification of those functional states with the physical states that realize them; (3) Mental states are functional states, physically realized. This involves (a) a functionalist account of the mind, and of mental states; (b) an identification of mental states with, so to speak, the program that the brain is running, rather than with the specific physical processes that are involved in the running of the program; (4) Eliminativism: this is the view that no minds, and no mental states, exist.

Non-Physicalistic Views: (1) Property dualism: there are non-physical properties, in the form of emergent qualia; (2) Intentional state dualism – according to which intentionality is the mark of the mental; (3) Substance dualism: the mind is an immaterial entity; (4) Idealism - the view that there is no mind-independent physical world.

Emergent Physicalism: There are emergent, sensuous properties - qualia - but they are physical properties, and everything that exists is purely physical.

Property Dualism versus Emergent Physicalism: Does one have logically privileged access to qualia, or are they in principle publicly observable?

Arguments for Substance Dualism: (1) The argument from personal identity, advanced by Richard Swinburne; (2) The argument from human freedom and responsibility; (3) The knowledge argument, advanced by J. P. Moreland and Scott B. Rae; (4) The argument from intentionality; (5) The argument from the existence of paranormal powers, such as telepathy, clairvoyance, precognition, and psychokinesis; (6) The argument from out-of-body experiences, and near-death experiences.

Arguments against Substance Dualism: (1) General arguments for materialism; (2) The crucial argument: the appeal to specific facts about humans, including (a) the results of blows to the head, (b) the effects of damage to different parts of the brain, (c) diseases that affect mental functioning, including Alzheimer's, (d) aging and the mind, (e) the gradual development of psychological capacities as humans mature, (f) the inheritance of intellectual abilities and psychological traits, (g) the great psychological similarity between identical twins than between fraternal twins, (h) the existence of psychotropic drugs, which can affect one's

mental state and functioning; and (i) the correlations between differences in psychological capacities across species with differences in the neural structures found in their brains.

Analytical Behaviorism: (1) Actual behavior versus behavioral dispositions; (2) The irrelevance of the nature of the causal connections between stimulus and response.

A Functionalist Analysis of Mental Concepts: (1) Mental states are individuated into different types on the basis of relations to (a) stimulation of the organism, (b) behavioral response, and (c) other mental states; (2) On most functionalist accounts, the relations in question are causal relations. So a mental state is the type of mental state it is in virtue of its causal role. (David Armstrong also allows the relation of resemblance.) (3) The intrinsic nature of a state is irrelevant to the question of whether it is a mental state, and, if so, what type of mental state it is.

Objections to Analytical Behaviorism: (1) The inverted spectrum argument; (2) The unconsciousness, or absent qualia, argument; (3) The understanding sensation terms argument. (Compare Thomas Nagel's "What it's like to be a bat" argument, or Frank Jackson's case of Mary.)

A Crucial Question: Do the preceding objections to analytical behaviorism also tell against a functionalist account of mental concepts?

Topic V. Consciousness, and the Existence of Emergent, Sensuous Qualities

Important Types of Arguments in Support of the Existence of Emergent Qualities: (1) Thomas Nagel's "What It's Like to Be a Bat" Argument; (2) The Continuity Objection, and the Line-Drawing Problem; (3) Frank Jackson's "What Mary Doesn't Know" Argument; (4) The Logical/Metaphysical/Nomological Possibility of an Inverted Spectrum; (5) David Chalmers' Argument: The Logical/Metaphysical Possibility of Zombies; (6) The "Unconscious Perceivers" Argument; (7) The "Understanding Sensation Terms" Argument.

Armstrong's Early Arguments against the Existence of Emergent Qualities: (1) Armstrong's indeterminacy objection; (5) Armstrong's intransitivity objection.

Thomas Nagel's Arguments: (1) The relocation used in the case of "phenomenal" physical properties is no longer available in the case of qualia; (2) Qualia are known by introspection, while properties of brain states are not known by introspection; (3) The "what it's like to be a bat" argument.

Paul Churchland's Responses to Nagel's Three Arguments: (1) Argument 1: The relocation move is incorrect in the case of the "phenomenal" properties of physical objects; (2) Argument 2 is unsound, since it mistakenly assumes that a certain context is extensional; (3) Argument 3 can be answered in the same way as Frank Jackson's argument, which is essentially the same.

Responses to Thomas Nagel's Third Argument, and to Frank Jackson's

Argument: (1) What Mary acquires when he leaves the room is not propositional knowledge; (2) David Lewis and Laurence Nemirow: Mary acquires the ability to make certain sensory discriminations in a direct fashion, using only her body; (3) Paul Churchland: Mary acquires a representation of sensory variables in some prelinguistic or sublinguistic medium of representation.

Comments on the Lewis/Nemirow and Churchland Responses: (1) The difference between the Lewis/Nemirow response and the Churchland is that the former focuses upon an ability, and the latter on the state underlying that ability; (2) Both responses are open to the same objection: Very different states can be a prelinguistic representation of a given property of physical objects, and those representing states might involve either (a) different qualia, or (b) no qualia at all. (3) This shows, however, that the Nagel/Thomas argument really presupposes either the inverted spectrum argument, or the absent qualia argument.

Armstrong's Later Anti-Qualia Arguments: (1) Minds as making up only a very small part of the universe; (2) The peculiar nature of the laws that must be postulated; (3) The need for a large number of extra laws; (4) The problem of the relation between mind and body: Should one opt for epiphenomenalism, or for interactionism, or for a pre-established harmony? All are deeply problematic: (a) The pre-established harmony view would only work if the mental were a self-contained realm, which it is not; (b) Epiphenomenalism is 'paradoxical'; (c) Interactionism entails, first, that physics is an incomplete account even of the inanimate world.

Topic VI. Intentionality and the Mind

Intensional Language and Intentional States: Intensional contexts versus extensional contexts; the interchange of co-referential terms within extensional contexts as preserving truth-values; existential quantification, or "quantifying in", as permissible within extensional contexts; the relation of these two features to patterns of inference.

Consciousness and the Mental: Is consciousness a mark of the mental? Is it a sufficient condition of the mental? Is it a necessary condition of the mental?

Intentionality and the Mental: Is intentionality a mark of the mental? Is it a sufficient condition of the mental? Is it a necessary condition of the mental? "That" clauses and two types of mental states.

Language, and the Question of the Source of Intentionality: Is the intentionality of language more basic than the intentionality of the mental, or vice versa? Is intentionality related to causal and/or dispositional properties? The argument from purely physical systems - e.g., the case of the heat-seeking missile.

Topic VII. Is Change Possible?

Important Arguments Against the Possibility of Change: (1) Parmenides argument concerning being and non-being; (2) Zeno's four arguments: (a) Achilles and the Tortoise; (b) The Dichotomy; (c) The Arrow; (d) The Stadium; (3) Benardete's "Serrated Continuum" versions of Zeno's paradox: (a) An infinite number of wall-building deities in T-shirts; (b) The infinite sequence of deafening sounds; (c) The infinite pile of thinner and thinner slabs; (d) The book with thinner and thinner pages; (4) McTaggart's argument for the unreality of time.

Some Relevant Ideas: (1) With regard to Parmenides' argument: Does change require negative properties? (2) With regard to Zeno's arguments: (a) Infinite series that have finite sums; (b) An action that has an infinite number of parts need not involve an infinite number of sub-actions, since one can intentionally will some outcome without separately willing each part of that outcome; (c) If space or time is infinitely divisible, there will be no next location, or next moment; (d) Infinite collections of things versus infinitely divisible things (Aristotle and actual infinities versus potential infinities); (e) Russell's analysis of motion as simply being in different locations at different times; (f) Fallacies involving switching the order of quantifiers. (3) With regard to Benardete's paradoxes: (a) Causally sufficient conditions versus conditions that are actually efficacious; (b) Causally sufficient conditions that are never actual.

Topic VIII. Time: Realist Versus Reductionist Views

Distinctions and Concepts: (1) The concept of space; (2) The idea of empty space, or space-time; (3) Realist views of space: (a) Empty space is possible; (b) Facts about space are not logically supervenient upon spatial relations between things or events; (4) Reductionist views of space: (a) Space cannot exist unless there are spatially related things or events; (b) Facts about space are not logically supervenient upon spatial relations between things or events. (Similarly: realist versus reductionist views of (a) time and (b) space-time.

Philosophical Arguments against Realist Views of Space: (1) General arguments against anything unobservable; (2) Something is real only if it is causally connected to other things; (3) Leibniz's Principle of the Identity of Indiscernibles.

A Philosophical Argument for Realist Views of Space: Space provides truth-makers for statements about empirical possibilities concerning unoccupied locations in space.

Scientific Arguments for Realist Views of Space and Time: (1) Newton's arguments for absolute space: (a) Force as producing a change in absolute motion, but not necessarily in relative motion; (b) Rotational motion relative to absolute space shows itself by its effects (The bucket argument, and the two globes argument. (2) Newton's argument for absolute time: Time enters into the

laws of nature, and cannot be merely "sensible" time. (3) Einstein's General Theory of Relativity allows for the possibility of empty space-time. (4) The idea of worlds with only laws of pure succession, and the fact that our world is not such a world: temporal magnitudes as the best explanation of correlations between different causal processes, both of the same type, and different types.

The Issue of the Relation between Time and Change: (1) Aristotle's view that change is the measure of time, and thus that if there is no time, there is no change; (2) The bearing of Newton's views upon Aristotle thesis: (a) The problem of getting a sensible measure of time that involves a constant interval; (b) The need to provide an explanation of correlations between causal processes: Newton's postulation of a temporal measure intrinsic to space itself; (3) Worlds where there is time, but no measure of time, because there are no quantitative temporal relations; (4) Sydney Shoemaker's argument for the possibility of time without any change: (a) Local freezes versus total freezes; (b) Objections to local freezes versus objections to total freezes; (c) A verificationist objection? (d) Alternative hypotheses? (e) The causation objection: temporally extended causes, or action at a temporal distance?

Topic IX. Time: Static Versus Dynamic Views

Some Fundamental Questions concerning the Nature of Time: (1) Does time have a direction? (2) If so, is it a feature of time itself, or is it definable in terms of the patterns that are found in time - such as increasing entropy, or expansion of the universe? (3) Are there fundamental differences between the past, the present, and the future? (a) Do past, present, and future differ with regard to being real? (b) Are there special, tensed properties of pastness, presentness, and futurity? (c) Or do terms like 'past', 'present', and 'future' simply serve to locate events temporally relative to the speaker in question, just as terms such as 'here' and 'there' simply locate things spatially relative to the speaker?

Dynamic versus Static Views of the Nature of Time: (1) The static conception of change: change is simply the possession of different properties by a thing at different times; (2) The dynamic conception of change: what facts there are, and thus what propositions are true or false, changes from one time to another; (3) The ontological concepts of being actual, and of being actual as of a particular time; (4) The corresponding semantical concepts of being true *simpliciter*, and of being true at a time.

Tensed Temporal Concepts versus Tenseless Temporal Concepts: (1) Tensed concepts are ones that locate events relative to the present. Examples: past, present, future, five minutes in the past. (2) Tenseless temporal concepts are ones that pick out a temporal relation between events that does not involve any reference to the present. Examples: earlier than, simultaneous with, three hours later than, two minutes apart.

The Issue of Analyzability: (1) Can tenseless temporal concepts be analyzed in terms of tensed ones? (2) Can tensed concepts be analyzed in terms of tenseless temporal concepts?

Objections to Attempts to Analyze Tenseless Temporal Concepts in Tensed Terms: (1) The concept of the future is needed, and yet it cannot be taken as analytically basic; (2) One also needs relational tensed concepts, such as that of being past at a time, and these appear to involve the earlier than relation.

Can Tensed Concepts be Analyzed in terms of Tenseless Temporal Concepts? (1) Analyses that provide a translation versus analyses that provide truth conditions; (2) Translational analyses are unsound; (3) Analyses that involve indexicals: Analyses that involve only static world concepts - such as those of being earlier than and of being simultaneous with, versus those that involve dynamic world concepts - such as that of truth at a time.

Which are More Basic: Tenseless Quantifiers or Tensed Quantifiers? (1) The future tensed existential quantifier, 'there will be', cannot be taken as basic; (2) One needs quantifiers that range over possible non-temporal entities, such as numbers and propositions.

Arguments in support of a Dynamic View of Time: (1) The appeal to the phenomenological of our experience of time: Can one be directly aware of the fact that the world is a dynamic one? (2) The linguistic argument: tensed sentences cannot be analyzed in terms of tenseless sentences; (3) Steven Cahn's argument that if the world were static, logical fatalism would be true; (4) The controllability argument: how the future is depends upon what one does now, whereas how the past is does not; (5) The direction of time argument: If the world is static, one cannot give an adequate account of the direction of time; (6) The argument from causation: reductionist approaches to causation are unsound, and the correct realist account is such that causation can only exist in a dynamic world. (Comment: I think there are satisfactory answers to the first five arguments.)

Arguments in support of a Static View of Time: (1) The argument from simplicity: a static world is simpler than a dynamic world; (2) No satisfactory explanation can be given of the idea of a dynamic world; (3) McTaggart's argument: the existence of tensed facts would give rise to a contradiction; (4) Instantaneous events cannot possess different tensed properties at different times; (5) Mellor's argument: the truth-values of tensed sentences are completely fixed by tenseless facts; (6) The "how fast does time flow?" objection; (7) A dynamic view of time can be ruled out on scientific grounds, since a dynamic world involves absolute simultaneity, and the latter is rendered implausible by Einstein's Special Theory of Relativity.

Arguments Based upon the Special Theory of Relativity (STR): (1) The modest argument: STR does not postulate any relations of absolute simultaneity; (2) Putnam's claim: STR entails that all events - past, present, and future - are equally real; (3) Stein's response to Putnam's argument; (4) Causal relations between parts of spacetime, realistically conceived, and a defense of absolute simultaneity: the simplest hypothesis is that the causal relations between parts of space-time are non-branching ones.

McTaggart's Argument for the Unreality of Time: (1) The A-series versus the B-series. (2) McTaggart's support for the claim that the B-series cannot involve real change: spatial parts versus temporal parts; (3) The A-series gives rise to a contradiction; (4) If tenseless sentences are not analyzable in tensed terms, there is a simple answer to McTaggart's argument, since one can specify, in tenseless terms, using dates, when events have the various tensed properties. No contradiction then even threatens to arise.

Topic X. A Causal Theory of the Direction of Time

Some Alternatives with regard to a Causal Theory: (1) A causal theory of time, or of spacetime? (2) An account in terms of actual causal connections, or in terms of causal connectibility? (3) A causal theory of the direction of time, or of all temporal relations?

A Prerequisite of any Causal Theory: An account of the direction of causation that does not involve any temporal notions.

Elements of a Possible Causal Theory: (1) A definition of simultaneity in terms of spatial relations; (2) Causal priority as a sufficient condition of temporal priority; (3) A definition of temporal priority in terms of causal priority plus simultaneity; (4) Causal relations as holding between spacetime points.

Objections to Causal Theories of Time: (1) Causal priority presupposes temporal priority; (2) Accounts involving causal connectibility are implicitly circular; (3) Backward causation is logically possible; (4) Empty spatiotemporal regions are logically possible; (5) Events that are not causally connected to other events are logically possible; (6) Spacetime itself could be totally empty.

Topic XI. Laws of Nature: Realist Versus Reductionist Views

Realist versus Reductionist Views of Laws of Nature: (1) Reductionism: what laws of nature there are is totally fixed by the complete history of the world; (2) Realism: laws of nature are not logically supervenient upon the history of the world. There could be two worlds with precisely the same history, but with different laws. (3) Reductionism and regularities: Non-probabilistic laws are either just cosmic regularities, or cosmic regularities that satisfy certain further constraints.

Arguments for a Reductionist View of Laws of Nature: (1) The appeal to ontological simplicity; (2) Arguments against theoretical entities: (a) the problem of meaning; (b) the problem of confirmation; (3) The inference problem: How do laws, realistically conceived, entail the corresponding regularities? (Bas van Fraassen and David Lewis)

Arguments for a Realist View of Laws of Nature: (1) The problem of distinguishing between laws and cosmic, accidental regularities; (2) The logical possibilities of basic, uninstantiated laws; (3) The improbability of mere cosmic regularities; (4) The problem of giving a reductionist account of probabilistic laws.

Topic XII. Causation: Realist Versus Reductionist Views

Realist Versus Reductionist Views of Causation: (1) Strong reductionism: Causal relations between events are logically supervenient upon the non-causal properties of events, and the non-causal relations between them; (2) Weak reductionism: Causal relations between events are logically supervenient upon causal laws plus the non-causal properties of events, and the non-causal relations between them.

Arguments for a Realist View of Causation: (1) The problem of giving an account of the direction of causation: (a) Simple worlds that are time symmetric as regards the events they contain; (b) 'Temporally inverted' worlds. (2) Underdetermination objections: (a) The problem posed by indeterministic laws; (b) The possibility of uncaused events; (c) Uncaused events plus probabilistic laws; (d) The possibility of exact replicas.

Topic XIII. Freedom of the Will: Logical Fatalism

Logical Fatalism: it follows from logical principles alone that whatever happens could not have not happened.

Important Distinctions: (1) The law of bivalence (For any proposition p , either p is true or p is false.) versus the law of excluded middle (For any proposition p , either p or $\sim p$); (2) Truth versus truth at a time.

Two Distinct Arguments in Aristotle's *On Interpretation*: (1) An argument that involves the law of bivalence; (2) An argument that involves, instead, only the law of excluded middle.

Implications of Aristotle's Solution with Respect to Logic: (1) There is a third truth-value- indeterminateness; (2) Propositions can change their truth-values; (3) Propositions can also change modally from not being inevitable to being inevitable.

Implications of Aristotle's Solution with Respect to Time: (1) Time is real; (2) A static view of time cannot be correct: one must adopt a dynamic view.

Criticisms of Cahn's Discussion: (1) The analytic law of excluded middle entails what Cahn refers to as the synthetic law of excluded middle i.e., the law of bivalence; (2) The second argument for logical fatalism set out above does not involve even the analytic law of excluded; (3) Cahn is mistaken in thinking that acceptance of a static view of the world makes the argument for logical fatalism unanswerable; (4) Cahn's discussion is faulty because he fails to distinguish between the classical notion of truth *simpliciter* and the temporally-indexed notion of truth at a time.

A Sound Version of Aristotle's Own Response to the Argument: (1) One must distinguish between truth *simpliciter* and truth at a time; (2) The principle of bivalence must be accepted in the case of truth, but rejected in the case of truth at a time; (3) If a proposition about the future is true at an earlier time, that does

generate a fatalistic conclusion; (4) But a proposition's being true *simpliciter* does not generate any fatalistic conclusion,

An Important Objection to Aristotle's Response to the Argument for Logical Fatalism: (1) If one admits a third truth-value in the case of truth at a time, it turns out that disjunction is not a truth functional connective; (2) It is, however, possible to answer this objection; (3) The key ideas needed are, first, a distinction between a proposition's being true because there is a state of affairs in the world that makes it true, and a proposition's being true because of its logical form, and secondly, that the idea that what are normally referred to as the truth functional connectives can be defined in terms of tables whose entries record factual truth status, where a proposition is factually true if and only if there is some state of affairs external to it that makes it true.

Topic XIV. Freedom of the Will: Theological Fatalism

A Crucial Distinction: God conceived of as an entity outside of time versus God conceived of as an entity in time.

Objections to the Idea that God is Outside of Time? (1) Can something outside of time be causally related to things in time? (2) Can there be causal relations without temporal relations?

The Idea of God in Time and the Accidental Necessity Versions of the Foreknowledge Dilemma: The basic ideas: (1) The Aristotelian idea of the (accidental) necessity of the past; (2) God's temporally earlier belief states as necessary; (3) Whatever is entailed by what is accidentally necessary is itself accidentally necessary.

A Version of the Argument Based upon the Assumption that God Is Infallible: (1) God's belief at t_1 that I will do S at t_3 is accidentally necessary at t_2 ; (2) If A is accidentally necessary at t and A strictly implies B , then B is accidentally necessary* at t ; (3) God's belief at t_1 strictly implies my act at t_3 ; (4) So my act at t_3 is accidentally necessary* at t_2 ; (5) If my act at t_3 is accidentally necessary* at t_2 , I cannot do otherwise than bring about that act at t_3 ; (6) If when I bring about an act I cannot do otherwise, I do not bring it about freely; (7) Therefore, I do not bring about my act at t_3 freely.

Linda Zagzebski's Three Proposed Solutions: (1) The individuation of beliefs in the case of God; (2) Harry Frankfurt's argument for the view that one may freely perform an action that one could not have refrained from performing; (3) The rejection of principle of the transference of accidental necessity.

The Problem with the Second Solution: The argument can be restated so that, rather than starting out from the premise that God's belief at t_1 that I will do S at t_3 is accidentally necessary at t_2 , it starts out from the premise that God's belief at t_1 that I will **freely** do S at t_3 is accidentally necessary at t_2 . The Frankfurt idea is then irrelevant.

An Alternative Solution: (1) Statements about free future actions are not now either true or false: they are indeterminate; (2) One can have knowledge of events only if either (a) one has knowledge of a sufficient cause, or (b) the event itself causally gives rise to one's belief; (3) The first possibility is ruled out in the case of free actions; (4) Backward causation is logically impossible; (5) So the second possibility is ruled out in the case of beliefs about later events; (6) Therefore knowledge of free, future actions is logically impossible; (7) To be omniscient does not involve the ability to know what it is logically impossible to know; (8) Consequently, God's omniscience is compatible with his not having any knowledge of the actions which people will freely perform in the future; (9) Moreover, the lack of such knowledge would not prevent God from exercising providential control over human history, since all that is needed for that is knowledge of what a person is in the process of freely doing at a given time.