What is a Prescription? What is a Proposition?

Abstract: The word 'prescription' is used in natural language and analytic philosophy but no precise definition for this term has been established. Here I advance a theoretical definition of a descriptive-prescriptive assertion distinction. In order to understand how descriptions and prescriptions function, a summary sketch of their ordinary use is presented. There are four important kinds of 'prescriptions': (1) regress-ending 'sufficient evidence' claims, (2) stipulative definitions, (3) the axioms, vocabulary, syntax, and inference rules of deductive systems, and (4) normative ethical assertions. Six kinds of 'descriptions' are explained: (1) empirical assertions, (2) deductive entailments, (3) reportive (lexical) definitions, (4) theoretic (natural kind) definitions, (5) aesthetic assertions, and (6) social science theories. A definition of 'proposition' is formulated using intuitions from twenty case examples. Soames (2010) claim that "for a sentence to be meaningful is for it to represent the world as being a certain way" (p. 1) is false.

Introduction

It is my hypothesis that there is a basic distinction between 'descriptions' and 'prescriptions' where sentence meaning is determined by its use (i.e., function, motive) in a given context as intended by a speaker. I maintain that speakers are capable of asserting (i.e., declaring, saying, uttering, communicating) sentences that are intended to be either a 'description' or 'prescription' in a given context. I argue that there are two kinds of *speaker meaning* that sentences can have:

A '**description**' is an assertion that purports to express a *correspondence* (or a representation) of some state of affairs, where its correctness (or incorrectness) is independent of its acceptance (or non-acceptance) by particular persons.

A '**prescription**' is an assertion that purports to express a *stipulation* (or rule) upon a practice, where its correctness (or incorrectness) is dependent upon its acceptance (or non-acceptance) by particular persons.

Not all declarative sentences, when asserted in context, express truth or falsity, nor are they intended to. Prescriptions are meaningful declarative (and imperative) sentences.

Part I: What is a Prescription?

Below I present examples of sentences, that when expressed in context, normally aren't (or shouldn't be) interpreted as being true or false. These examples and explanations are *fast-paced* and aren't sufficient to establish the truth of the claims made, but additional (abductive) arguments are available (monograph) to support these claims.

I. 'Sufficient Evidence' Assertions are Prescriptions

Let's consider two assertions that can be made in ordinary contexts that should be understood as prescriptions:

(1) I have adequate evidence to believe that I see a chair in this room because I am having a visual experience of seeing a chair, I have previous experience seeing and utilizing chairs, it is normal for a chair to be in a classroom, my vision is good, the room lighting is normal, I am well-rested and alert, and I have no reason to suspect that someone is trying to deceive me. (Source: A person defending his belief that he sees a chair in a classroom).

(2) I have adequate evidence to believe that Abraham Lincoln once lived in Illinois because of my school learning, textbooks, and documents in museums. (Source: A person defending a belief that Lincoln lived in Illinois USA).

The question of whether a person has 'adequate,' 'strong enough,' or 'sufficient' evidence to believe and ultimately know an empirical proposition **p** is a traditional epistemic problem. How much evidence (e.g., quantity and quality) must one possess before one can legitimately claim to know that a proposition is true? When is evidence 'sufficient' to rule-out the existence of defeating facts (and to eliminate doubt, and retain strong belief)? What stops a skeptical regress-of-reasons in the continual demand for reasons to support a belief and the beliefs that support it?

A 'regress' typically occurs when a skeptic **S** demands reasons for why **p** should be believed, and continues to question why supporting evidential reasons **e1**, **e2**, **e3** should be believed, and beyond. There are four responses for how a regress terminates:

(a) Belief **p** owes its justification to belief **e1**, based on **e2**, and so on *ad infinitum*.

(b) Belief **p** is itself inferred directly from some belief(s) which are *assumptions*, where no further reasons are needed. A regress is ended by *persons*, not by other foundational or coherent beliefs.

(c) Belief **p** owes its justification to belief **e1**, which is based on belief **e2**, which is based on belief **p**, doubling back in a circle. A justification is based upon beliefs and premises that form a coherent holistic web-like structure.

(d) Belief **p** owes its justification to beliefs that are ultimately based upon sensual foundations which are non-inferential premise(s) and need no further justification.   A regress of justification is linear and terminates with a 'basic' non-inferential assertion about self-evident sense experience.

Responses (c) and (d) represent the coherence and foundations theories, respectively, and are historically the most popular replies to what ends an epistemic regress of reasons.

But more recently 'contextualist theories' of 'personally justified belief' such as those of David Annis (1978), Michael Williams (2001), and Adam Leite (2005) have supported option (b). In effect, these authors claim that it is *persons* (and not solely a relationship of beliefs) that ultimately ends a conversational (or professional-technical) regress. Persons *prescribe* the norms (and tests) that determine what kinds of evidence, how much evidence, and what sorts of reasoning is sufficient for **p** to be believed. A regress of reasons ends when it is agreed among persons, sometimes dogmatically, that no further evidence is needed in order to believe **p**.

In real-world situations of serious evaluations, when we critically examine whether **S** is justified in believing **p**, we ask: 1) What are **S**'s evidential premises? 2) Are the premises true? 3) What is the structure of the inference? 4) Does the structure of the inference and content of the premises make it likely (or deductively necessary) that **p** is true? 5) Are the concepts and distinctions employed helpful for understanding a phenomenon? 6) What background information is assumed true? 7) What training does **S** possess? 8) Is **S** in a normal (or optimal) physical situation to know **p**?

In regress situations, not only must an objector group *believe* that **S** is in an advantageous situation (i.e., possessing strong and relevant evidence to believe **p**), *they* must also *agree* that **S**'s cumulative reasons for believing **p** are 'adequate' or 'strong enough.' With b, it is maintained that a *prescriptive (normative-pragmatic) judgment* of what evidence constitutes 'adequate' evidence plays an important role in ending a regress.

II. Stipulative Definitions Are Prescriptions

A 'stipulative definition' introduces a specialized definiens for a definiendum:

Initial Naming Definitions

(1) I shall at this moment name my new puppy 'Spot.' (Source: A dog owner declaring the name of her new puppy).

(2) This particular platinum-iridium bar (at a temperature of 0 degrees celsius) will now constitute the standard measure of a 'metre.' (Source: The French National Academy in the late 19th century).

Abbreviatory Definitions

(3) In the remainder of this essay, I will abbreviate 'trigeminal neuralgia' as 'TN.' (Source: An article about nerve disorders. The author proposes a short symbol for a longer one to save space and for easier reading).

(4) In this contract, the name 'John Smith' designates the term 'lessee.' (Source: An apartment contract where for typographical convenience, and consistency, the predicate 'lessee' is substituted for a proper name).

Precise Formalized Definitions

  (a) Pragmatically formalized definitions

(5) A person is 'tall' if he or she is 6 feet in height or greater. (Source: A person evaluating how many tall people participate in a basketball league).

(6) 'Light' means 'One third fewer calories.' (Source: A definition proposed by the United States Food and Drug Administration with the intent of making the labeling of food more consistent in 1991).

(b) Technically formalized definitions

(7) An 'analytic sentence' is a sentence that is true solely in virtue of the meaning (or the definitions) of its terms. (Source: A rough definition from Kant, 1781).

(8) 'Truth' is a *property* of sentences (in a given formal model) and sentences are truth bearers. (Source: Logician, Alfred Tarski, 1944).

(c) Personal formalized definitions

(9) 'Happiness' is good health and bad memory. (Source: Actor, Ingrid Bergman)

(10) 'Leadership' is a person's being able to guide or inspire others, to enlist support in the accomplishment of a common task. (Source: Motivational speaker, Mark Shead, Leadership501.com, 2018).

Sentences 1 & 2 are stipulative definitions in the initial naming of an entity where the entity is newly-discovered, newly-introduced, newly-created, or newly-renamed. In 3 & 4, a stipulative definition is the notational abbreviation of one linguistic expression for another (meaningful) linguistic expression. In 5-6, 7-8, and 9-10 a stipulative definition is a formalization where a lexical definiendum-to-definiens relation is generally affirmed but a definiens alteration is proposed for pragmatic, technical, or personal reasons.

III. Axioms, Definitions & Inference Rules of Deductive Systems Are Prescriptions.

(1) A straight line segment can be drawn joining any two points. (Source: An axiom from Euclid's postulates of geometry).

(2) If n is a number, the successor of n is a number. (Source: An axiom from Peano's Axioms of Arithmetic).

(3) If (**p** v **q**) and not **q**, then **p**. (Source: The inference rule of 'disjunctive syllogism' found in logic textbooks).

(4) Whenever a=b, and b=c, then a=c. (Source: The inference rule of the transitivity of identity found in logic and mathematics books).

Examples (1) and (2) are examples of mathematical axioms, and (3) and (4) are rules of inference found in logic.

One definition of 'axiom' that is still found in some mathematics texts is that it is a proposition that is self-evidently true, without proof. A more modern characterization of an 'axiom' is that it is a proposition composed of undefined primitive terms and cannot be proved from other propositions (and axioms) within a formal system. In this way an axiom is 'independent' of the other propositions. The key terms in axioms are primitive. David Hilbert and Paul Bernays (1934) were proponents of characterizing axioms in this manner. The undefined terms do not have any meaning (other than from their occurrence in the axioms) and may be interpreted in any way that is consistent with the axioms. Axioms function to provide an implicit definition of terms with a simultaneous characterization of related terms. The adoption of particular axioms is based upon their role in a formal theory and is dependent upon how a theoretician constructs the theory. In geometry, 'point' and 'line' are not explicitly defined. In set theory, 'set' and 'element' are undefined. The axioms of a theory are consistent if no contradiction can be deduced. This is verified by using proofs or models while acknowledging the limitations proven by Kurt Godel (1931). An axiom can be *assumed-true* (and not literally true) only under a consistent interpretation (or model) that gives meaning to the system.

This formalist position about the syntactic relationship of axioms to other propositions, is consistent with an *epistemic* view endorsed here that axioms are apparently *prescribed* as rules (and are not known):

> An **'axiom'** is a foundational prescriptive assertion that underlies a set of stipulative definitions, grammar-syntax, and inference rules that measure a specified domain. An axiom is adopted if it helps measure (or map, represent) the physical world (or linguistic discourse) in a fruitful way.

It is consistent to believe that Peano's axioms, Euclid's postulates, and the fundamental axioms of logic are *prescribed* as foundational (formal) rules for the measurement of their given domains. That the 'rules of inference' in logic are a *normative* standard for reasoning has been suggested by others. The logician wants to adopt (i.e., prescribe) truth-conducive syntactic transformation rules since a true conclusion is sought as output from true premises. Whether a rule is truth-conducive isn't always obvious, and if it isn't truth-conducive, demonstrated example(s) of its failure will lead to its rejection.

Metaphysical and Formal Semantic Axioms Are Prescriptions

> (1) **The Law of Identity:** For any object **x**, it is necessarily the case that **x** is identical with **x**.

> (2) **The Principle of Bivalence:** Any significant statement/assertion/utterance/ proposition is either true or false. In other words, **p** is true, or **p** is false.

> (3) **The Law of Excluded Middle:** For every statement/assertion/proposition **p**, either **p** is true, or **p** is false. It is true that either **p** or **not-p**.

> (4) A **'proposition' is the object of a propositional attitude and is true or false.**

On what basis do we adopt these principles/axioms/assumptions? Can we know them to be true, and if so, on what basis? The standard 'metaphysical realist' answer is that these initial three principles are knowable as *a priori* truths. These principles are said to be self-evident, necessary, and their falsity is inconceivable. On the contrary, I argue that it is *false* that reasoned *a priori* insight allows a person to discover facts about 'the reality of metaphysical possibilities and necessities' (i.e., about what could and could not be). The concept of a prescription allows us to explain these assertions in the following alternative way:

The Law of Identity

Identity is defined as a relation between a thing and itself (i.e., **x = x**). Saul Kripke (1980) believes that the law of identity is applicable to any object in any possible world, for it is inconceivable that an entity isn't identical with itself. He states that identical objects are necessarily identical is a self-evident thesis of philosophical logic independent of natural language (p. 4). In "Identity and Necessity" (1971, 2011), Kripke just casually asserts that "every object surely is necessarily self-identical" (p. 2). E.J. Lowe (2002) states that it is an "indisputable fact that everything is identical with itself" (p. 23). Lowe says that "there is a strong case for saying that when we talk about identity over time, we are genuinely talking about *identity*, that is; about the relation which, of necessity, every object bears to itself, and only to itself" (p. 91).

On the contrary, the law of identity *stipulates* that 'identity' is a relation that each object bears to itself in every possible world. It is conceivably *prescribed* as an axiom.

The Principle of Bivalence & the Law of Excluded Middle

The concept of a 'prescription' contradicts the assumption that *sentence meaningfulness* is always *tied to a truth value*. Prescriptions are *meaningful well-formed sentences* that are intended to be *agreed-upon, without being literally true or false*.

The Prescriptive Foundations of Deductive Logic and Mathematics

The structure of deductive systems consists of the following elements: 1) the introduction of a *vocabulary* of symbols and definitions about what counts as an individual constant, individual variable, predicate, proper name, sentential connective, punctuation, and quantifier, 2) the introduction of *syntactical formation rules* (or grammar) that defines how 'well-formed formulas' are to be constructed out of symbols (i.e. a procedure that determines whether a sentence, as a finite strings of words or symbols, is 'meaningful' or not) 3) a set of truth-preserving *inference rules*, and 4) a *semantics* (e.g. truth-table definitions of connectives, or interpretations using symbolization keys and extensions). Behind this familiar structure there are implicit *axioms* and *definitions* that underlie formal systems.

The syntax and semantics of formal deductive systems are prescriptive in that they stipulate rules regimenting the use of linguistic expressions. Any validly entailed proposition (i.e., a conclusion) found in symbolic logic and mathematics is relative to the stipulated foundations (axioms, definitions, inference rules, grammar, and vocabulary) of a formal deductive system. The purpose of a formal deductive system is to establish a precise language and inference rules that enable one to validly deduce (i.e., 'derive') one proposition as entailed from the assumed truth of supporting proposition(s). An artificial

formal system may be formulated and studied for its intrinsic properties (as in pure mathematics), but more often it is formulated in terms of a description (i.e., a model) of existing phenomena. Geometry, arithmetic, logic, truth-theoretic semantics, probability theory, statistics, and computer languages are all examples of 'formal systems.'

What is a Proposition? Are there Prescriptive Propositions?

What is a proposition? In its most neutral characterization, a 'proposition' is a complete sentence asserted in a context that presents the contents of one's thought. Let use examine our linguistic intuitions from the following twenty conceptual case studies:

(1) The sentence 'It is now raining' (as a linguistic expression) is not by itself literally true or false. The sentence needs to be asserted in an environment and at a certain time to be true or false. It is the *proposition* expressed (in a context) by the sentence 'It is now raining' that is true when it is raining, and false when it is not raining. Sentences are not literally true or false, but it is their assertion as a 'proposition' in a context that is either true or false.

(2) The English sentence 'Snow is white' expresses the same proposition as the German sentence 'Der Schnee ist weis.' Given that these sentences are different, it isn't the linguistic entities (i.e., sentences of different language) that make the assertions true, it is the proposition (i.e., meaningful content) that is true.

(3) The sentences 'Here is the red book' and the 'The red book is here' when asserted in a context to a single book express the same proposition. It is not the sentences (which differ in *syntax*) that are literally true or false, it is the proposition expressed by a sentence that is true or false.

(4) 'Sam is mad' and 'Sam is angry' are different sentences. 'Mad' and 'angry' are *synonyms*, so either sentence may be used in a context. The proposition is true or false (about Sam) no matter which sentence is used.

(5) The single sentence 'John sees old men and women' is ambiguous because it could be used to express *two* different *propositions*.

(6) The sentence 'My name is George' when asserted by different persons, may be true, even though the same sentence is used to express different propositions.

(7) The sentences 'Mark Twain wrote *Huckleberry Finn*' and 'Samuel Clemens wrote *Huckleberry Finn*' are different sentences but express the same true proposition, because Mark Twain is Samuel Clemens. It isn't the sentences that are true, it is the *same* proposition (expressed by different sentences) that is true.[1]

(8) The sentence 'The present King of France is bald' expressed two different propositions when asserted (or used) during two consecutive time periods when Louis XIV and Louis XV continuously ruled.

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[1] Another interpretation is that in certain contexts, these sentences *don't* express the same proposition. Whether (or not) these sentences express the same propositional content rests upon a person's background knowledge. In a context where **S** doesn't know that the two proper names, 'Mark Twain' and 'Samuel Clemens' designate the same person, these sentences will express two propositions (e.g., one proposition might be deemed true and the other false) for that **S**. For an uninformed **S**, these two *sentences* express *different propositions (i.e., have different content, non-equivalent meaning)*.

(9) The proposition 'I am pale' is true or false, contingent upon the physical appearance of a person asserting the sentence. The proposition stated may be true or false depending on whom asserts the sentence.

(10) The sentences that 'today was fun' and 'yesterday was fun' when stated on consecutive days are used to express the same proposition.

(11) The sentence 'Persons should not smoke tobacco' is understood by a metaethical cognitivist as a true or false proposition. For a non-cognitivist, this can be interpreted as a *prescriptive proposition* (not truth-apt).

(12) The sentences 'It is permissible to feed the wolves' and 'It is allowable to feed the wolves' (by synonymy of 'permissible' and 'allowable') may be interpreted as the same *prescriptive proposition* (not truth-apt).

(13) An 'interrogative' (e.g., 'Do you know where a gas station is?') is interpreted as the conjunction of a description and prescription: 'I do not know **x**' (*description)* and 'please tell me **x**' (*prescription)*.

(14) With a 'warning' (e.g., 'Watch out!') a *prescription* is asserted, often accompanied by a *description* ('You'll get hit') about probable consequences of not heeding a warning.

(15) In 'bequeathing' to assert 'I give and bequeath my wristwatch to my brother, after I die' is to *describe* one's wishes and *prescribe* to executors to abide by one's will.

(16) The concept of a 'promise' is to sincerely *describe* one's intention to do something, and to *prescribe* to oneself to perform appropriate follow-up actions.

(17) The 'solicitation of a bet' (e.g., 'I'll bet you $25 that the Green Bay Packers will win') *describes* a bettor's willingness to bet money on his belief (prediction) about the outcome of a contest and *prescribes* to the listener to accept the wager.

(18) A 'request' (e.g., 'Would you please close the door?') is a *prescription* that a person should aid the speaker, and implicitly *describes* that the speaker desires (or has value) in having the door closed.

(19) Whether a sentence is being used to describe or prescribe (or both) is relative to a social context. For example, a cashier at a restaurant may assert to a patron that 'Your sandwich is ready' which *describes* the fact of the completion of the order and *prescribes* patron pick-up.

(20) The assertion 'In order to turn off the lights you must flip the switch' is ambiguous without context. The speaker may be informing the listener about how to turn off the lights in a room (i.e., *describing*) or the speaker may be requesting the listener to turn off the lights (i.e., *prescribing*).

The idea behind these examples is that *sentences* in natural language (linguistic entities) are *not true or false*, but it is the *proposition* expressed that is *apt* for truth or falsity (or *not apt* for truth or falsity). *Descriptive* and *prescriptive* propositions, when asserted in context, will normally have a content, significance, or meaning for a speaker.

In a precise version, I define 'proposition' as the following:

A **'proposition'** as a sentence when asserted at a time and in a context, presents the 'content' (or 'significance') of one's thought. The 'content' of a proposition applies to contexts of speaker meaning. 'Propositional content' can be identified

by ascriptions of a 'sameness in meaning' or a 'difference in meaning' to the same sentence or different sentences in context. It is fluent speakers of a natural language that judge whether a sentence (expressed as a proposition in a context) has the same or a different literal meaning from other sentences.

The twenty case studies and the proposed definition of 'proposition' involve a notion of 'propositional content' and are consistent with some (not all) of the widely accepted philosophical core intuitions about what a proposition is:

(1) A *proposition* is a complete declarative sentence *asserted in a context* that presents the *'content' of **S's** thought*. Propositions exist as the *'shared content'* of *sentences*. A proposition is the 'content' or 'meaning' of a declarative sentence.

(2) A proposition is (metaphorically) 'what is said' by a declarative sentence.

(3) Different *sentences* may be used to express the *same* proposition (relative to context). In other words, 'different sentences' relative to context can state 'the same thing' or have 'the same meaning.'

(4) *Sentences* (and their corresponding *descriptive propositions*) are *true* or *false* relative to context.

A 'proposition' is defined here as a stipulated fixed definiens concept for technical philosophical reasons.

With the case example #11 above, it is explicitly maintained that contrary to popular metaphysical belief, *propositions are not essentially true or false*. The sentence 'Persons should not smoke tobacco' may be understood as a *prescriptive proposition* (not truth-apt). Both 'descriptions' and 'prescriptions' have 'propositional content' (or

significance) for a speaker in a context, even though 'prescriptions' are neither true nor false. This leads us to the metaethical theory that moral assertions are understandable as prescriptive.

IV. Normative Ethical Assertions Are Prescriptions.

(1) You should pick up your bedroom. (Source: A mother to a child).

(2) Drunk driving is wrong. (Source: Mothers Against Drunk Driving).

I endorse 'prescriptivism' as a metaethical theory (not associated with R.M. Hare, 1963):

Prescriptivism: Ethical assertions and substantive value affirmations are prescriptions. The 'correctness' of any value affirmation or ethical assertion is dependent upon what persons accept, tolerate, or agree-to, and does not refer to an objective moral reality.

Prescriptivism maintains that ethical propositions may be accepted (or not accepted) by humans, but they are neither true nor false. Moral assertions do not function to 'represent reality' as beliefs, but instead they function to represent choice and guide action. Ethical assertions can be agreed-on, adopted, or accepted by persons having shared values. With prescriptions, a social consensus is sought, and not the discovery of ethical truth.

On the prescriptivist view, any argument with an ethical 'ought' conclusion is derived from a set of premises that includes at least one prescriptive (ought) assertion. Consider the enhanced ban on intoxicated driving. Beginning in 1980, a grassroots group called Mothers Against Drunk Driving (MADD) launched a campaign to curb tolerance for alcohol-impaired driving in the United States. This is how a prescriptivist identifies the 'descriptions' and 'prescriptions' in a particular impaired-driving case:

(#1) **Description:** Driver intoxication often causes auto accidents.

(#2) **Prescription (value):** Auto accidents have negative value.

(#3) **Prescription (ethical principle):** A driver shouldn't be intoxicated driving.

(#4) **Prescription (ethical principle):** Intoxicated drivers should be subject to stricter enforcement and higher legal penalty for violation (the MADD principle).

(#5) **Description:** Smith was driving with a high blood-alcohol content of .32.

(#6) **Prescription:** Therefore, Smith should be subject to strict legal penalties.

We can shorten the above ethical argument into a deductive form as follows:

(1) **Prescription (ethical)**: If **S** drives drunk, **S** should be subject to legal penalty.

(2) **Description:** Smith drove drunk.

(3) **Prescription (ethical)**: Therefore, Smith should be penalized.

Although this short argument has a valid *modus ponens* form, such that *if* all of the premises are true, then the conclusion must be true; it should be recognized that the argument is not sound, since the first premise is not literally true. In logic, it is stipulated that an argument is 'sound' if and only if its premises are true, and its form is valid. Given the definition of a prescription (that it is neither true nor false) *it is impossible to ever generate a sound ethical argument*, given the standard definition of what constitutes a sound deductive argument. With a moral argument, the best we can do is to present a valid argument, where it is *assumed* (as a fiction) that the value and ethical premises have a truth value, and that the validity of the argument is determined by the standard rules of deductive logic. The assumption that ethical values and principles are either 'true or false'

is *false*, but there is no harm in assessing the *validity* of moral arguments, as long as it is understood that the value premises don't literally have a truth value.

Part II: What is a Description?

I. Empirical Assertions Are Descriptions

Statements about material affairs are the most common form of description. Sentences about empirical matters (e.g., 'I see a table,' 'Australia is located in the Southern Hemisphere' or 'My knee hurts') are mundane and there is no question that they are descriptive in meaning and have an objective truth value (or falsity) in context. Theories in the physical sciences involve some key stipulations and prescriptive assertions, but scientific empirical theories are mostly descriptive.   This is uncontroversial.

II.   Deductive Entailments Are Descriptive: An Introduction to Game Formalism

A metamathematical theory called 'formalism,' 'deductivism,' or 'game formalism' is endorsed here. It suggests that mathematical knowledge is similar to knowing the rules of a game and making moves that accord with the rules of the game. If one adopts certain rules, then there are certain valid conclusions or outputs that follow, given certain inputs. Besides stating that the axioms of a deductive system express implicit definitions independent of any derivation from other propositions, formalism holds that deduced mathematical 'truths' are the consequence of following a consistent set of manipulation rules in a formal system.   Reasoning proceeds based upon syntactically marked regularities of expressions without an immediate concern for semantics. The content of mathematics is exhausted by the rules operating within its language. The adoption of

certain concepts, definitions, and rules are guided by the intuitive parameters of measuring a given domain (e.g., numerical, spatial, valid arguments).

A game formalist acknowledges that some well-formed formulas are not provable within a formal system and that there are some theorems in axiomatic systems that remain conjectures (i.e., as unprovable beliefs). The theorems of Godel demonstrated that no (sufficiently powerful) recursive axiomatic system can be proved both 'complete' and 'consistent,' but this does not affect the game formalism thesis about the structure of mathematics. A 'conjecture' is a putatively true theorem that hasn't been derived by formal mathematical proof (e.g., Goldbach's conjecture and the Continuum Hypothesis). It is understood that *most entailed mathematical truths are deducible* as 'true-in-a-language' but *not all*. Game formalism, as an explanation for why deductive entailments are *descriptively* true or false, is more plausible than any Platonic alternative.

III. & IV. Reportive and Theoretic Definitions Are Descriptions

These categories of assertion have a linguistic entity (i.e., a definiendum) as their subject. Reportive definitions (truly or falsely) describe linguistic practice. The definiendum is asserted to have a standard definiens in a community (as in a dictionary):

> A **'reportive definition'** (or 'lexical definition,' 'nominal definition') reports or describes the generally accepted or community equivalence between a definiendum and a definiens. A reportive definition is correct (i.e., true) if its definiens is an accurate report of the usual sense(s) of a definiendum.

Theoretic definitions purport to describe the nature of an entity or phenomena represented by a definiendum, with the intent to make the definiendum-definiens relationship true:

A **'theoretic definition'** (or 'natural definition,' 'real definition') affirms the standard equivalence between a definiendum and a definiens but represents an attempt to analyze the 'nature' or 'associated material conditions' of the entity being discussed. Entities designated by a theoretic definition are assumed to have a self-unity, or an independent nature that allows them to have essential properties that may be subject to analysis. In physical science, objects such as water, acid, gold, kinetic energy, electron, gene, protein, enzyme, animal species, and plant species are often thought to belong to 'natural kind' categories. In Philosophy, knowledge, truth, justification, mentality, cause, law, necessity, explanation, freedom, beauty, goodness, piety, justice, and existence have often been treated as having an objective nature. A theoretic definition is true if its definiens truly describes instances (or extensions) of the object being defined.

V. Aesthetic Assertions Are Descriptions

A central issue of Aesthetics is whether aesthetic judgments can be true or false. When **S** says, 'this painting is beautiful,' what is this sentence about? Is the speaker reporting that the *painting* is beautiful? Is the speaker asserting that there are properties in the painting which make it objectively true that the painting is beautiful? Or does the speaker report her *subjective experience* when viewing the painting? An 'aesthetic realist' will respond that the judgment 'this painting is beautiful' is about the *painting*, and that the painting has the property of 'beauty' that emerges from its base physical properties.

An 'aesthetic subjectivist' on the contrary, believes that 'this painting is beautiful' reports a *subjective experience*, and is about whether the painting satisfies one's interests

and tastes. An aesthetic judgment is ultimately reducible to a report of one's own subjective experience regarding the perception of an aesthetic item. The speaker asserts a *relationship* between the speaker's perceptual experience and the item. A sincere aesthetic judgment *describes* whether a person enjoys (or dislikes) **x**. Aesthetic judgments are *true or false* in that they are descriptions of subjective evaluations.

Fundamental to the subjectivist aesthetic position, is the belief that an aesthetic judgment is determined by a contingent connection; a cultural-causal-physiological connection between an object **x** and **S**'s feeling of aesthetic reward (or disappointment, indifference) toward **x**. An aesthetic judgment expresses the taste (standards of value) of the perceiver and allows the perceiver to indicate qualities the perceiver likes or dislikes. When a person states that the *'The Horse Whisperer* was a good movie,' that person attributes a (favorable) relation between her preferences (or values) as an existing mental state to entities which satisfy those preferences. In most cases we grant that persons can know what aesthetic experiences (truly) please them. Because there is some inter-subjective commonality of aesthetic value, *prescriptive recommendations* often follow from aesthetic experience, e.g., whether a kind of ice cream tastes good.

VI. Social Science Theories Are Descriptive

The social sciences include Anthropology, Economics, Education, Geography, History, Linguistics, Political Science, Psychology and Sociology, among others. Models and theories attempt to simulate a world that explains human intentions. Social sciences draw upon empirical methods and attempt to be objective. Scholars seek to describe expectations (or predict) how persons will behave on the basis of the beliefs and desires

attributed to them. Philosophy, likewise, should seek to explain beliefs and behavior by rendering them intelligible. Philosophy *should be* conceived as a social science.

'Conceptual analysis' is advocated and practiced here, as the *preferred social scientific methodology* for analytic philosophy. Conceptual analyses are an attempt to describe our linguistic practices and intentions and interpret natural (and artificial) language uses of sentences and words. Many times, a concept is defined (or explained) in part as a response to imagined hypothetical situations (i.e., the method of cases). Participants critically assess their linguistic and world-view intuitions about case studies (e.g., 'Tom Grabit' and 'Henry and the Barn' with respect to 'knowledge'). Its methodology centers upon the evaluation of competing philosophical theories using best-explanation inferences. Rejecting or modifying beliefs and theses in the face of convincing examples and counterexamples is a characteristic of dialectical philosophical argumentation.

Part IV: Conclusion

The descriptive-prescriptive distinction contradicts a belief held by most philosophers, namely, that all propositions (i.e., assertions, declarations) are either true or false. Scott Soames in *Philosophy of Language* (2010) states:

> The central fact about language is its representational character. Exceptional cases aside, a meaningful declarative sentence S represents the world as being a certain way. To sincerely accept, or assertively utter S, is to believe, or assert, that the world is the way S represents it to be… For S to be meaningful is for it to represent the world as being a certain way.... (p. 1).

This is false. There are four kinds of declarative sentences that when asserted in context that appear to be 'prescriptive': (1) regress-ending 'sufficient evidence' claims, (2) stipulative definitions, (3) the axioms, vocabulary, syntax, and inference rules of deductive systems, and (4) normative ethical assertions. These examples provide conclusive evidence that meaningful sentences don't always represent truth or falsity.

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