DIRECTORATE OF DISTANCE EDUCATION

UNIVERSITY OF NORTH BENGAL

MASTER OF ARTS- PHILOSOPHY

SEMESTER -IV

NAVYA NYĀYA

SOFT CORE 402

BLOCK-2

UNIVERSITY OF NORTH BENGAL

Postal Address:

The Registrar,

University of North Bengal,

Raja Rammohunpur,

P.O.-N.B.U., Dist-Darjeeling,

West Bengal, Pin-734013,

India.

Phone: (O) +91 0353-2776331/2699008

Fax: (0353) 2776313, 2699001

Email: regnbu@sancharnet.in ; regnbu@nbu.ac.in

Wesbsite: www.nbu.ac.in

First Published in 2019

FOREWORD

The Self Learning Material (SLM) is written with the aim of providing simple and organized study content to all the learners. The SLMs are prepared on the framework of being mutually cohesive, internally consistent and structured as per the university's syllabi. It is a humble attempt to give glimpses of the various approaches and dimensions to the topic of study and to kindle the learner's interest to the subject

We have tried to put together information from various sources into this book that has been written in an engaging style with interesting and relevant examples. It introduces you to the insights of subject concepts and theories and presents them in a way that is easy to understand and comprehend.

We always believe in continuous improvement and would periodically update the content in the very interest of the learners. It may be added that despite enormous efforts and coordination, there is every possibility for some omission or inadequacy in few areas or topics, which would definitely be rectified in future.

We hope you enjoy learning from this book and the experience truly enrich your learning and help you to advance in your career and future endeavours.

NAVYA NYĀYA

BLOCK-1

BLOCK-2

BLOCK 2: NAVYA NYĀYA

Introduction to the Block

Unit 8 deals with Semantics of Negative Statements. Semantics (from Ancient Greek: σημαντικός sēmantikós, "significant") is the linguistic and philosophical study of meaning in language, programming languages, formal logics, and semiotics.

Unit 9 deals with Intensive study of Gangesa's tattvacintāmani.Tattvacintāmaṇi is a treatise in Sanskrit authored by 12th-century CE Indian logician and philosopher Gangesa Upadhyaya (also known as Gangesvara Upadhyaya).

Unit 10 deals with Didhiti o Raghunatha. Raghunātha Śiromaṇi (c.1460–c.1540)2 is the first modern philosopher, his ideas single-handedly responsible for the emergence of a new form of Navya-Nyāya, the 'new reason', in the sixteenth and seventeenth centuries.

Unit 11 deals with NYAYA – VAISESIKA. The Nyaya is the work of the great philosopher and sage Gautama. It is a realistic philosophy based mainly on logical grounds.

Unit 12 deals with John Vattanky. Vattanky is a Professor Emeritus of Jnana-Deepa Vidyapeeth, Pune, India. He has contributed significantly to the growth of Indian philosophy and Indian Christian Theology.

Unit 13 deals with Śrīharṣa 1. Śrīharṣa draws the distinction between the Buddhist philosophers and the Advaita Vedantins in a single point that the Buddhists consider all the categories as indeterminable whereas the Advaitins maintain that all except for consciousness (vijñāna) is indeterminable (literally, distinct from being and non-being).

Unit 14 deals with Śrīharṣa 2. Classical Hindu and Buddhist philosophical debate provides a platform for a number of justification theories to evolve.

UNIT 8: SEMANTICS OF NEGATIVE STATEMENTS

STRUCTURE

8.0 OBJECTIVES

After this unit, we can able to know:

- Negation in natural language: markedness and asymmetry
- Matters of scope
- Contrariety and contradiction
- Negation, presupposition, and singular terms
- From contradiction to contrariety: pragmatic strengthening of negation
- Privation, affixal negation, and the markedness asymmetry

8.1 INTRODUCTION

Semantics (from Ancient Greek: σημαντικός sēmantikós, "significant") is the linguistic and philosophical study of meaning in language, programming languages, formal logics, and semiotics. It is concerned with the relationship between signifiers—like words, phrases, signs, and symbols—and what they stand for in reality, their denotation.

In International scientific vocabulary semantics is also called semasiology. The word semantics was first used by Michel Bréal, a French philologist. It denotes a range of ideas—from the popular to the highly technical. It is often used in ordinary language for denoting a problem of understanding that comes down to word selection or connotation. This problem of understanding has been the subject of many formal enquiries, over a long period of time, especially in the field of formal semantics. In linguistics, it is the study of the interpretation of signs or symbols used in agents or communities within particular circumstances and contexts. Within this view, sounds, facial expressions, body language, and proxemics have semantic (meaningful) content, and each comprises several branches of study. In written language, things like paragraph structure and punctuation bear semantic content; other forms of language bear other semantic content.

The formal study of semantics intersects with many other fields of inquiry, including lexicology, syntax, pragmatics, etymology and others. Independently, semantics is also a well-defined field in its own right, often with synthetic properties. In the philosophy of language, semantics and reference are closely connected. Further related fields include philology, communication, and semiotics. The formal study of semantics can therefore be manifold and complex.

Notes

Semantics contrasts with syntax, the study of the combinatorics of units of a language (without reference to their meaning), and pragmatics, the study of the relationships between the symbols of a language, their meaning, and the users of the language. Semantics as a field of study also has significant ties to various representational theories of meaning including truth theories of meaning, coherence theories of meaning, and correspondence theories of meaning. Each of these is related to the general philosophical study of reality and the representation of meaning.
In 1960s psychosemantic studies became popular after Osgood's massive cross-cultural studies using his semantic differential (SD) method that used thousands of nouns and adjective bipolar scales. A specific form of the SD, Projective Semantics method uses only most common and neutral nouns that correspond to the 7 groups (factors) of adjective-scales most consistently found in cross-cultural studies (Evaluation, Potency, Activity as found by Osgood, and Reality, Organization, Complexity, Limitation as found in other studies). In this method, seven groups of bipolar adjective scales corresponded to seven types of nouns so the method was thought to have the object-scale symmetry (OSS) between the scales and nouns for evaluation using these scales. For example, the nouns corresponding to the listed 7 factors would be: Beauty, Power, Motion, Life, Work, Chaos, Law. Beauty was expected to be assessed unequivocally as “very good” on adjectives of Evaluation-related scales, Life as “very real” on Reality-related scales, etc. However, deviations in this symmetric and very basic matrix might show underlying biases of two types: scales-related bias and objects-related bias. This OSS design meant to increase the sensitivity of the SD method to any semantic biases in responses of people within the same culture and educational background.
Negation is in the first place a phenomenon of semantical opposition. As such, negation relates an expression e to another expression with a meaning that is in some way opposed to the meaning of e. This relation may be realized syntactically and pragmatically in various ways. Moreover, there are different kinds of semantic opposition. Section 1 is concerned mainly with negation and opposition in natural language, both

from a historical and a systematical perspective. Section 2 focuses on negation as a unary connective from the point of view of philosophical logic. The history of negation is comprehensively studied and surveyed in Horn 1989 and Speranza and Horn 2012.

Linguistics

In linguistics, **semantics** is the subfield that is devoted to the study of meaning, as inherent at the levels of words, phrases, sentences, and larger units of discourse (termed texts, or narratives). The study of semantics is also closely linked to the subjects of representation, reference and denotation. The basic study of semantics is oriented to the examination of the meaning of signs, and the study of relations between different linguistic units and compounds: homonymy, synonymy, antonymy, hypernymy, hypony my, meronymy, metonymy, holonymy, paronyms. A key concern is how meaning attaches to larger chunks of text, possibly as a result of the composition from smaller units of meaning. Traditionally, semantics has included the study of sense and denotative reference, truth conditions, argument structure, thematic roles, discourse analysis, and the linkage of all of these to syntax.

Montague grammar

In the late 1960s, Richard Montague proposed a system for defining semantic entries in the lexicon in terms of the lambda calculus. In these terms, the syntactic parse of the sentence John ate every bagel would consist of a subject (John) and a predicate (ate every bagel); Montague demonstrated that the meaning of the sentence altogether could be decomposed into the meanings of its parts and in relatively few rules of combination. The logical predicate thus obtained would be elaborated further, e.g. using truth theory models, which ultimately relate meanings to a set of Tarskian universals, which may lie outside the logic. The notion of such meaning atoms or primitives is basic to the language of thought hypothesis from the 1970s.

Despite its elegance, Montague grammar was limited by the context-dependent variability in word sense, and led to several attempts at incorporating context, such as:

- Situation semantics (1980s): truth-values are incomplete, they get assigned based on context
- Generative lexicon (1990s): categories (types) are incomplete, and get assigned based on context

Prototype theory

Another set of concepts related to fuzziness in semantics is based on prototypes. The work of Eleanor Rosch in the 1970s led to a view that natural categories are not characterizable in terms of necessary and sufficient conditions, but are graded (fuzzy at their boundaries) and inconsistent as to the status of their constituent members. One may compare it with Jung's archetype, though the concept of archetype sticks to static concept. Some post-structuralists are against the fixed or static meaning of the words. Derrida, following Nietzsche, talked about slippages in fixed meanings.

Systems of categories are not objectively out there in the world but are rooted in people's experience. These categories evolve as learned concepts of the world – meaning is not an objective truth, but a subjective construct, learned from experience, and language arises out of the "grounding of our conceptual systems in shared embodiment and bodily experience".[9] A corollary of this is that the conceptual categories (i.e. the lexicon) will not be identical for different cultures, or indeed, for every individual in the same culture. This leads to another debate (see the Sapir–Whorf hypothesis or Eskimo words for snow).

Theories in semantics

Formal semantics

Originates from Montague's work (see above). A highly formalized theory of natural language semantics in which expressions are assigned denotations (meanings) such as individuals, truth values, or functions from one of these to another. The truth of a sentence, and its logical relation to other sentences, is then evaluated relative to a model.

Truth-conditional semantics

Pioneered by the philosopher Donald Davidson, another formalized theory, which aims to associate each natural language sentence with a meta-language description of the conditions under which it is true, for example: 'Snow is white' is true if and only if snow is white. The challenge is to arrive at the truth conditions for any sentences from fixed meanings assigned to the individual words and fixed rules for how to combine them. In practice, truth-conditional semantics is similar to model-theoretic semantics; conceptually, however, they differ in that truth-conditional semantics seeks to connect language with statements about the real world (in the form of meta-language statements), rather than with abstract models.

Conceptual semantics

This theory is an effort to explain properties of argument structure. The assumption behind this theory is that syntactic properties of phrases reflect the meanings of the words that head them. With this theory, linguists can better deal with the fact that subtle differences in word meaning correlate with other differences in the syntactic structure that the word appears in. The way this is gone about is by looking at the internal structure of words. These small parts that make up the internal structure of words are termed semantic primitives.

Cognitive semantics

Cognitive semantics approaches meaning from the perspective of cognitive linguistics. In this framework, language is explained via general human cognitive abilities rather than a domain-specific language module. The techniques native to cognitive semantics are typically used in lexical studies such as those put forth by Leonard Talmy, George Lakoff, Dirk Geeraerts, and Bruce Wayne Hawkins. Some cognitive semantic frameworks, such as that developed by Talmy, take into account syntactic structures as well. Semantics, through modern researchers can be linked to the Wernicke's area of the brain and can be measured using the event-related potential (ERP). ERP is the rapid

electrical response recorded with small disc electrodes which are placed on a persons scalp.

Lexical semantics

A linguistic theory that investigates word meaning. This theory understands that the meaning of a word is fully reflected by its context. Here, the meaning of a word is constituted by its contextual relations. Therefore, a distinction between degrees of participation as well as modes of participation are made. In order to accomplish this distinction any part of a sentence that bears a meaning and combines with the meanings of other constituents is labeled as a semantic constituent. Semantic constituents that cannot be broken down into more elementary constituents are labeled minimal semantic constituents.

Cross-cultural semantics

Various fields or disciplines have long been contributing to cross-cultural semantics. Are words like love, truth, and hate universals? Is even the word sense – so central to semantics – a universal, or a concept entrenched in a long-standing but culture-specific tradition? These are the kind of crucial questions that are discussed in cross-cultural semantics. Translation theory, ethnolinguistics, linguistic anthropology and cultural linguistics specialize in the field of comparing, contrasting, and translating words, terms and meanings from one language to another (see Herder, W. von Humboldt, Boas, Sapir, and Whorf). But philosophy, sociology, and anthropology have long established traditions in contrasting the different nuances of the terms and concepts we use. And online encyclopaedias such as the Stanford encyclopedia of philosophy, https://plato.stanford.edu, and more and more Wikipedia itself have greatly facilitated the possibilities of comparing the background and usages of key cultural terms. In recent years the question of whether key terms are translatable or untranslatable has increasingly come to the fore of global discussions, especially since the publication of Barbara Cassin's Dictionary of Untranslatables: A Philosophical Lexicon, in 2014.

Computational semantics

Computational semantics is focused on the processing of linguistic meaning. In order to do this concrete algorithms and architectures are described. Within this framework the algorithms and architectures are also analyzed in terms of decidability, time/space complexity, data structures that they require and communication protocols

Semantic models

The Semantic Web refers to the extension of the World Wide Web via embedding added semantic metadata, using semantic data modeling techniques such as Resource Description Framework (RDF) and Web Ontology Language (OWL). On the Semantic Web, terms such as semantic network and semantic data model are used to describe particular types of data model characterized by the use of directed graphs in which the vertices denote concepts or entities in the world and their properties, and the arcs denote relationships between them. These can formally be described as description logic concepts and roles, which correspond to OWL classes and properties.

Psychology

In psychology, semantic memory is memory for meaning – in other words, the aspect of memory that preserves only the gist, the general significance, of remembered experience – while episodic memory is memory for the ephemeral details – the individual features, or the unique particulars of experience. The term 'episodic memory' was introduced by Tulving and Schacter in the context of 'declarative memory' which involved simple association of factual or objective information concerning its object. Word meaning is measured by the company they keep, i.e. the relationships among words themselves in a semantic network. The memories may be transferred intergenerationally or isolated in one generation due to a cultural disruption. Different generations may have different experiences at similar points in their own time-lines. This may then create a vertically heterogeneous semantic net for certain words in an otherwise homogeneous culture. In a network

created by people analyzing their understanding of the word (such as Wordnet) the links and decomposition structures of the network are few in number and kind, and include part of, kind of, and similar links. In automated ontologies the links are computed vectors without explicit meaning. Various automated technologies are being developed to compute the meaning of words: latent semantic indexing and support vector machines as well as natural language processing, artificial neural networks and predicate calculus techniques.

Ideasthesia is a psychological phenomenon in which activation of concepts evokes sensory experiences. For example, in synesthesia, activation of a concept of a letter (e.g., that of the letter A) evokes sensory-like experiences (e.g., of red color).

8.2 NEGATION AND OPPOSITION IN NATURAL LANGUAGE

8.2.1 Introduction

Negation is a sine qua non of every human language, yet is absent from otherwise complex systems of animal communication. While animal "languages" are essentially analog systems, it is the digital nature of the natural language negative operator, represented in Stoic and Fregean propositional logic as a one-place sentential connective toggling the truth value of statements between T[rue] and F[alse] (or 1 and 0) and applying recursively to its own output, that allows for denial, contradiction, and other key properties of human linguistic systems.

The simple syntactical nature of logical negation belies the profoundly complex and subtle expression of negation in natural language, as expressed in linguistically distinct categories and parts of speech (adverbs, verbs, copulas, quantifiers, affixes). As will be partly explored here (see also Horn 1989, Ladusaw 1996, Pullum 2002), the investigation of the form and meaning of negative expressions in English and other languages and of the interaction of negation with other operators (including multiple iterations of negation itself) is often far from simple, extending to scope ambiguities (Everybody didn't leave), negative incorporation into quantifiers and adverbs (nobody, never, few), neg-

raising (I don't want to go = "I want not to go"), and the widespread occurrence of negative polarity items (any, ever, lift a finger) whose distribution is subject to principles of syntax, semantics, and pragmatics. At the core of the mental faculty of language, negation interacts in significant ways with principles of morphology, syntax, logical form, and compositional semantics, as well as with processes of language acquisition and sentence processing, whence the prominent role played by work on negation in the development of logic, semantics, linguistic theory, cognition, and psychoanalytic and literary theory.

What sort of operation is negation? In the Categories and De Interpretatione, Aristotle partitions indicative-mood declarative sentences into affirmation and negation/denial (apophasis from apophanein "deny, say no"), which respectively affirm or deny something about something (De Int. 17a25). As a mode of predication, the "predicate denial" of Aristotelian term logic, while resulting in wide-scope negation opposed in truth value to the corresponding affirmative, is syntactically distinct from the unary "it is not the case that" connective of Stoic and Fregean logic.

By combining subject and predicate to form a proposition, this approach can be seen as offering a more natural representation of ordinary language negation than the standard iterating operator that applies to fully formed propositions (Geach 1972; Englebretsen 1981; Horn 1989, Chap. 7; Sommers and Englebretsen 2000). Indeed, the syncategorematic negation of Montague Grammar (Montague 1973; cf. the entry on Montague semantics) is itself a means of connecting a term phrase subject with a predicate or IV (intransitive verb) phrase and thus fails to apply to its own output (see Horn 1989, §7.2 on "Aristotle as a Montague grammarian"). Cross-linguistically, the structural reflex of sentence-scope negation may be a free-standing adverb (German nicht, English not), a bound inflectional form (Japanese -na-, English -n't), or a verb (Finnish en, ei).

Where we do not find negation is in the one place propositional logic would lead us to look, sentence- or clause-peripheral position. Furthermore, unlike speech act types (e.g., interrogation), negation never seems to be marked in natural language by a global intonation contour.

Typically, sentence negation is associated directly on or near the main finite verb or predicate expression.

8.2.2 Negation in natural language: markedness and asymmetry

It has often been observed that the logical symmetry of negative and affirmative propositions in logic belies a fundamental asymmetry in natural language. It was Plato who first observed, in The Sophist, that negative sentences are less valuable than affirmative ones, less specific and less informative. The ontological, epistemological, psychological, and grammatical priority of affirmatives over negatives is supported by Aristotle:

The affirmative proposition is prior to and better known than the negative (since affirmation explains denial just as being is prior to not-being) (Metaphysics 996b14–16) and St. Thomas Aquinas:

The affirmative enunciation is prior to the negative for three reasons… With respect to vocal sound, affirmative enunciation is prior to negative because it is simpler, for the negative enunciation adds a negative particle to the affirmative. With respect to thought, the affirmative enunciation, which signifies composition by the intellect, is prior to the negative, which signifies division… With respect to the thing, the affirmative enunciation, which signifies to be, is prior to the negative, which signifies not to be, as the having of something is naturally prior to the privation of it. (St. Thomas, Book I, Lesson XIII, cited in Oesterle 1962, 64)

Not only are negative statements (e.g., “Paris isn’t the capital of Spain”) generally less informative than affirmatives (“Paris is the capital of France”), they are morphosyntactically more marked (all languages have negative markers while few have affirmative markers) and psychologically more complex and harder to process (see Just and Carpenter 1971, 248–9; and other work reviewed in Horn 1989, Chapter 3). Many philosophers, linguists, and psychologists have situated this asymmetry in logic or semantics, as in the claim that every negation presupposes a corresponding affirmative (but not vice versa).

The strong asymmetricalist position leads to the "paradox of negative judgment": if a positive statement refers or corresponds to a positive fact, to what state of affairs does a negative statement refer or correspond? What in fact is a negative fact? For Bergson (1911, 289), negation is necessarily "of a pedagogical and social nature"; for Wood (1933, 421) it is "infected with error and ignorance". According to Wittgenstein (1953, §447), "the feeling is as if the negation of a proposition had to make it true in a certain sense in order to negate it". Givón (1978: 70) points to the discourse presuppositionality of utterances like "My wife is not pregnant". Psycholinguistic studies have shown that negation is easier to process when the denied proposition, if not already in the discourse model, is at least a plausible addition to it (e.g., "The whale is not a fish/#bird"; cf. Wason 1965; Horn 1989, Chapter 3).

Beyond its marked status, negation has also been analyzed variously as a modality, a propositional attitude, and a speech act. The danger here is putting the pragmatic cart before the semantic horse. For example, not every negation is a speaker denial (in making this point, Frege points to the non-denial nature of embedded negation as in "If not-p then q"), nor is every speaker denial a linguistic negation. Given the repeated attempts over the centuries to liquidate or tame it—negation as positive difference, as dissimilarity or incompatibility, as falsity, as an admission of epistemic impoverishment, as the speech act of denial—and its resilience in surviving these attacks, negation qualifies as the Rasputin of the propositional calculus.

But the prototypical use of negation is indeed as a denial of a proposition attributable to, or at least considered by, someone relevant to the discourse context. While affirmation standardly introduces a proposition into the discourse model, negation—in its "chief use" (Jespersen 1917, 4), its "most common use" (Ayer 1952, 39), its "standard and primary use" (Strawson 1952, 7)—is directed at a proposition that is already in or that can be accommodated by the discourse model.

8.2.3 Matters of scope

If we think of negation as essentially a means for opposition—the impossibility of simultaneously endorsing two incompatible options (see

the entries on contradiction and the traditional square of opposition)—propositional negation is not necessarily privileged. This view is formally implemented in the Boolean algebraic model of Keenan and Faltz, on which negation is a cross-categorial operation, as are the binary connectives:

We can directly interpret conjunctions, disjunctions, and negations in most categories by taking them to be the appropriate meet, join, and complement functions of the interpretations of the expressions conjoined, disjoined, or negated. The sense in which we have only one and, or, and not is explicated on the grounds that they are always interpreted as the meet, join, and complement functions in whatever set we are looking at. (Keenan and Faltz 1985, 6)

Treatments of English and other languages frequently posit negative operators whose scope is narrower than the sentence or clause. This tradition dates back to Aristotle, for whom the predicate term negation in Socrates is not-wise, affirming that the predicate not-wise holds of Socrates, yields a false statement if Socrates does not exist, while the predicate denial Socrates isn't wise denies that the predicate wise holds of Socrates and is true if Socrates does not exist. For Jespersen (1917), the subclausal "special" negation as in Nobody came, where "the negative notion…belong[s] logically to one definite idea", is opposed to "nexal" negation, applying to "the combination of two ideas", typically the subject-predicate nexus. Later linguists usually follow Klima (1964) and Jackendoff (1969) in allowing for constituent negation (e.g., verb phrase negation in You can [not go]) alongside sentential negation (You cannot go), utilizing various grammatical and semantic diagnostics for distinguishing the two varieties.

A syntactic correlate of the distinction between wide- (sentential) versus narrow-scope (constituent) negation in English is that only when the negative element has clausal scope, as in the (a) examples in (1)-(3), can it trigger negative inversion. In the corresponding (b) examples, the scope of negation does not extend beyond the fronted phrase, whence the exclusion of ever, a satellite of negation (negative polarity item).

- (1)a.With no job **will I** be happy. [= I won't be happy with any job]
- b.With no job I will be happy. [= I will be happy without any job]
- (2)a.In no clothes **does Robin** look good.
- b.In no clothes Robin looks good.
- (3)a.At no time **were we** (ever) alone together in the Oval Office.
- b.In no time we were (*ever) alone together in the Oval Office.

Negation also interacts in complicated and often surprising ways with quantification and modality. Perhaps the most analyzed interaction is with universal quantification. Despite the locus classicus All that glitters is not gold and similar examples in French, German, and other languages, the wide scope of negation over universal subjects (or in cases like All the boys didn't leave, the possibility of such readings, depending on the speaker, the intonation contour, and the context of utterance) is often condemned by purists, yet is not as illogical as it may appear

8.2.4 Contrariety and contradiction

Negation as such is often semantically restricted to contradictory opposition between propositions, in which ¬A¬A can be paraphrased (if not necessarily syntactically represented) as "it is not the case that AA". As introduced in Aristotle's Categories (11b17), the genus of opposition (apophasis) is divided into species that include contrariety and contradiction. Contradictory opposites, whether affirmative and negative counterparts of a singular predication (Socrates is wise/Socrates isn't wise) or quantified expressions (All pleasure is good/Some pleasure is not good), are mutually exhaustive as well as mutually exclusive, while contrary opposites (Socrates is wise/Socrates is unwise; All pleasure is good/No pleasure is good) do not mutually exhaust their domain. Contraries cannot be simultaneously true, though they may be simultaneously false. Members of a contradictory pair cannot be true **or** false simultaneously; contradictories "divide the true and the false between them" (see the entries on contradiction and the traditional square of opposition).

Contrary terms (enantia) come in two varieties (Cat. 11b38ff.). In immediate or logical contraries (odd/even, sick/well), a true middle—an

entity satisfying the range of the two opposed terms but falling under neither of them—is excluded, e.g., an integer neither odd nor even. But mediate contrary pairs (black/white, good/bad) allow for a middle—a shirt between black and white, a man or an act neither good nor bad. Neither mediate nor immediate contraries fall under the Law of Excluded Middle [LEM] (tertium non datur).

For immediate contraries formed by narrow-scope predicate term negation, the rendering aa is not-FF in the traditional quasi-English phrasing corresponds to what Aristotle expresses through word order, utilizing the distinction between e.g., einai mê leukon "to be not-white" and mê einai leukon "not to be white" (Prior Analytics I 51b10). For Aristotle, aa is neither FF nor not-FF can be true if aa doesn't exist (Santa is neither white nor not-white) or isn't the kind of thing that can be F (The number 7 is neither white nor not-white), given that not-FF is taken to affirm the negative property non-FF-ness of the subject rather than denying a positive property.

Other cases in which apparent contradictories can be seen as contraries, and thus immune from any application of LEM, are future contingents (There will be/will not be a sea battle tomorrow; cf. De Int. Chapter 9) and, in more recent work (Alxatib and Pelletier 2011, Ripley 2011a), vague predications. Thus a is neither F nor not-F is often judged true when F is a vague predicate (bald, rich, tall), although in the latter case speakers may also be willing to affirm that a is both F and not-F, which complicates matters (see the entries on futurecontingents and vagueness).

8.2.5 Negation, presupposition, and singular terms

In his classic paper on sense and reference, Frege (1892) argues that both (4a) and its contradictory (4b) presuppose that the name Kepler has a denotation. Every affirmative or negative sentence with a singular subject (name or description) presupposes the existence of a unique referent for that subject; if the presupposition fails, no assertion is made in (4a,b).

- (4)a.Kepler died in misery.
- b.Kepler did not die in misery.

But this presupposition is not part of the content of the expression, and hence (4a) does not entail existence, or the negation of (4a) would not be (4b) but Kepler died in misery or the name "Kepler" has no reference, an outcome Frege seems to have taken as an absurdity but one that prefigures the later emergence of a presupposition-cancelling external or exclusion negation.

Unwilling to countenance the truth-value gaps incurred on Frege's analysis, Russell (1905, 485) reconsiders the status of contradictory negation with vacuous subjects:

By the law of the excluded middle, either "A is B" or "A is not B" must be true. Hence either "the present king of France is bald" or "the present king of France is not bald" must be true. Yet if we enumerated the things that are bald and the things that are not bald, we should not find the king of France on either list. Hegelians, who love a synthesis, will probably conclude that he wears a wig.

To resolve this (apparent) paradox while preserving a classical analysis in which every meaningful sentence is true or false, Russell banishes singular terms like the king of France from logical form, unpacking (5) and (6) as existentially quantified sentences despite their superficial subject-predicate syntax.

- (5)The king of France is bald.
- (6)The king of France is not bald.

On Russell's theory of descriptions, (5) can be represented as (5′), the (false) proposition that there is a unique entity with the property of being king of France and that this entity is bald, while (6) is ambiguous, depending on the scope of negation.

- (5′)$\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge Bx))\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge Bx))$
- (6′)$\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge \neg Bx))\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge \neg Bx))$
- (6″)$\neg\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge Bx))\neg\exists x(Kx \wedge \forall y(Ky \rightarrow y=x) \wedge Bx))$

(6′), with narrow-scope ("internal") negation, is the proposition that there is a unique and hirsute king of France, which is "simply false" in the absence (or oversupply) of male French monarchs. In (6″), on the other hand, the description the king of France falls within the scope of external negation and yields a true proposition. Unlike (6′), (6″) fails to entail that there is a king of France; indeed, the non-existence of a king of France

guarantees the truth of (6″). This reading is more naturally expressed with the fall-rise contour and continuation characteristic of metalinguistic negation (Horn 1989) as in (7):

- (7)The king of France isn't vvBALD—there ISN'T any king of France!

For Strawson (1950, 1952), negation normally or invariably leaves the subject "unimpaired". Strawson tacitly lines up with Frege and against Russell (and Aristotle) in regarding negative statements like (4b) and (6) as unambiguous and necessarily presuppositional. Someone who utters (6) does not thereby assert (nor does her statement entail) that there is a king of France. Rather, (6)—along with its affirmative counterpart (5)—presupposes it. If this presupposition fails, a statement may be made but the question of its truth value fails to arise.

While many analysts (e.g., Wilson 1975, Atlas 1977, Gazdar 1979, Grice 1989) have since followed Russell by preserving a bivalent semantics and invoking pragmatic explanations of apparent presuppositional effects, other linguists and philosophers (e.g., Fodor 1979, Burton-Roberts 1989, von Fintel 2004) have defended and formalized theories of semantic presupposition in the Frege-Strawson spirit, allowing for the emergence of truth-value gaps or non-classical truth values when presuppositions are not satisfied.

Non-bivalent logics of semantic presupposition, dating back to Łukasiewicz (1930) and Kleene (1952), generally posit (at least) two not-operators, the distinction arising lexically rather than (as for Russell) scopally; see the entry on many-valued logic and Section 2 below. The ordinary, presupposition-preserving internal or choice negation is the only one countenanced by Frege and Strawson; on this reading, Santa is not white, like Santa is white, is neither true nor false, given that Santa does not exist. The presupposition-cancelling or exclusion negation always determines a classical value. With exclusion negation, Santa is not white (or perhaps more plausibly It is not the case that Santa is white) is true even if there is no Santa. Thus there is no excluded middle; any affirmation and its corresponding exclusion negation are contradictories rather than contraries

8.2.6 From contradiction to contrariety: pragmatic strengthening of negation

In his dictum, "The essence of formal negation is to invest the contrary with the character of the contradictory", Bosanquet (1888) encapsulates the widespread tendency for formal contradictory (wide-scope) negation to be semantically or pragmatically strengthened to a contrary.

We use ©AA to represent any contrary of AA. Following the Aristotelian theory of opposition, the two contradictories AA and ¬A¬A cannot both be false, just as they cannot both be true, while a given proposition and a contrary of that proposition, AA and ©AA, can both be false, although they cannot both be true. (Others have used κκ or R for one-place non-truth-functional contrariety connectives; cf. McCall 1967, Humberstone 2005; see also Bogen 1991 for the distinction between linguistic and metaphysical contraries.) It should be noted that while ¬¬ is an operator that takes one proposition into another, © is not, since a given proposition may have logically distinct contraries, while this is not the case for contradictories. Geach (1972, 71–73) makes this point with the example in (8). While (8a) has two syntactically distinct contradictories, e.g., Not every cat detests every dog and It's not every dog that every cat detests, any such co-contradictories of a given proposition will always have the same truth conditions. But (8a) allows two contraries with distinct truth conditions, (8b) and (8c).

- (8)a.Every cat detests every dog.
- b.No cat detests every dog.
- c.There is no dog that every cat detests.

Similarly, (9a) allows three non-identical contraries:

- (9)a.I believe that you're telling the truth.
- b.I believe that you're not telling the truth.
- c.I don't believe that you're telling the truth or that you're not; I haven't made up my mind yet.
- d.I don't believe that you're telling the truth or that you're not: I haven't given the matter any thought.

Thus while we can speak of the contradictory of a proposition, Geach observes, we cannot (pace McCall 1967) speak of the contrary, but only

of a contrary, of a proposition. As Humberstone (1986, fn. 6) points out in response to Geach's critique of McCall, however, the lack of uniqueness "does not prevent one from exploring the logical properties of an arbitrarily selected contrary for a given statement". For our purposes, the crucial logical properties of contrariety are that (i) the contradictory of a proposition AA is not a contrary of AA and that (ii) contrariety unilaterally entails contradiction:

- (10)a.©A⊢¬AA⊢¬A
- b.¬A⊬¬A⊬ ©AA

For McCall (1967), contrariety is a quasi-modal notion akin to logical impossibility, □¬◻¬, in that □¬A◻¬A entails ¬A¬A but not vice versa, but as pointed out by an anonymous reviewer, there is no intrinsic modal component of contrariety; all that is necessary is that contrariety is a non-truth-functional one-place connective. (See Humberstone 1986, 2003, 2005; Bogen 1991; and Vakarelov 1989a for additional considerations.)

The strengthening of contradictory negation, ¬A¬A, to a contrary, ©AA, typically instantiates the inference schema of disjunctive syllogism or modus tollendo ponens in (11):

- (11)A∨B¬ABA∨B¬AB

While the key disjunctive premise is typically suppressed, the role of disjunctive syllogism can be detected in a variety of strengthening shifts in natural language where the disjunction in question is pragmatically presupposed in relevant contexts. Among the illustrations of this pattern are the following:

- The tendency for negation outside the scope of (certain) negated propositional attitude predicates (e.g., a does not believe that pp) to be interpreted as associated with the embedded clause (e.g., a believes that not-pp); this is so-called "neg-raising", to which we return below.
- The tendency for a semantically contradictory negation of an unmarked positive value, whether affixal (xx is unfair/unhappy) or clausal (I don't like him), to be strengthened (as either an "online" or conventionalized process) to a contrary of the positive predication. As contraries, Chris is happy and Chris is unhappy allow an unexcluded middle, since Chris can be neither

happy nor strictly unhappy; similarly, I don't like him is generally understood as stronger than a mere assertion that it's not the case that I like him.

- The strengthening of a negated plural definite (The kids aren't sleeping) or bare plural (Beavers don't eat cheese) from a contradictory to a contrary of the corresponding affirmative. In each case, the negation is understood as inside the scope of the quantified subject.

When there are only two alternatives in a given context, as in the case of neg-raising (as stressed by Bartsch 1973; cf. Horn 1978; Horn 1989, Chapter 5), the denial of one (I don't believe it will rain) amounts to the assertion of the other (I believe it won't rain). The relevant reasoning is an instance of the disjunctive syllogism pattern in (11), as seen in (12), where FF represents a propositional attitude and aa the subject of that attitude.

- (12)F(a,p)∨F(a,¬p)¬F(a,p)————F(a,¬p)[the pragmatically assumed disjunction][the sentence explicitly uttered][the stronger negative proposition conveyed]F(a,p)∨F(a,¬p)[the pragmatically assumed disjunction]¬F(a,p)_[the sentence explicitly uttered]F(a,¬p)[the stronger negative proposition conveyed]

The key step is the pragmatically licensed disjunction of contraries: if you assume I've made up my mind about the truth value of a given proposition pp (e.g., "it will rain") rather than being ignorant or undecided about it, then you will infer that I believe either pp or ¬p¬p, and my denial that I believe the former ("I don't think it will rain") will lead you to conclude that I believe the latter ("I think it won't rain"). (See Horn 1989, Chapter 5 for more on this phenomenon; Gajewski 2007 for a neo-Bartschian analysis; and Collins and Postal 2014 for a vigorous defense of a grammatical approach to neg-raising).

The availability of strengthened contrary readings for apparent contradictory negation has long been recognized, dating back to classical rhetoricians of the 4th century on the figure of litotes, in which an affirmative is indirectly asserted by negating its contrary (Hoffmann 1987). Litotic interpretations tend to be asymmetrical: an attribution of "not happy" or "not optimistic" will tend to convey a contrary (in this

case “rather unhappy” or “fairly pessimistic”), while no analogous virtual contrariety is normally signaled by “not sad” or “not pessimistic”, which are usually understood as pure contradictories. This asymmetry is ultimately a social fact arising from the desire to respect negative face (Ducrot 1973, Brown and Levinson 1987, Horn 1989).

For Jespersen, the tendency reflected by the neg-raised interpretation of I don’t think that pp not only illustrates the general strengthening to contrariety but also participates in a more general conspiracy in natural language to signal negation as early as possible. Additional effects of this “neg-first” principle (Horn 1989, 293; after Jespersen 1917, 5) range from diachronic shifts in the expression of sentential negation (see van der Auwera 2010) and the fronting and negative inversion in (1a) or (2a) to the emergence of ambiguities arising in contexts like [neg S1S1 because S2S2] (Jespersen 1917, 48), as in “She didn’t marry him because he’s poor”, where the “illogical” scope reading—on which his poverty was the non-cause of the wedding rather than the cause of the non-wedding—can be rendered more or less accessible by the intonation contour.

The “neg-raised” reading of I don’t think that pp as “I think that not-pp” has often been deplored as an illogical placement of negation, an unfortunate ambiguity, or (in Quine’s terms) an “idiosyncratic complication” of one language:

the familiar quirk of English whereby “xx does not believe that pp” is equated to “xx believes that not pp” rather than to “it is not the case that xx believes that pp”. (Quine 1960, 145–6; similar claims are made by Hintikka, Deutscher, and others)

But this “quirk” has deep roots.

The locus classicus is St. Anselm’s Lambeth fragments (Henry 1967, 193–94; Hopkins 1972, 231–32; Horn 1989, 308ff.). Anselm points out that “non…omnis qui facit quod non debet peccat, si proprie consideretur”—not everyone who does what he non debet (“not-should”) sins, if the matter is considered strictly (with the contradictory reading of negation as the syntax suggests). The problem is that non debere peccare is standardly used to convey the contrary meaning debere non peccare rather than the literal contradictory (“it is not a duty to sin”). It is

hard to stipulate e.g., non debet ducere uxorem (= "a man is free not to marry") without seeming to commit oneself to the stronger debet non ducere uxorem, an injunction to celibacy (Henry 1967, 193ff.; Horn 1978, 200).

For Henry (1967, 193, §6.412), Anselm's observations on modal/negative interaction are "complicated by the quirks of Latin usage". But far from a Quinean quirk of English and/or Latin usage, "neg-raising"—the lower-clause understanding of negation of a believe- or ought-type predicate—is distributed widely and systematically across languages and operators.

The raised understanding is always stronger than the contradictory (outer) negation; it applies to a proper subset of the situations to which the contradictory applies (is true in a proper subset of possible worlds). Thus neg-raising, as Anselm recognized, yields a virtual contrariety: the compositional meaning is true but too weak, and the addressee recovers a conversational implicature to "fill in" the stronger proposition.

In some cases, the strengthened or neg-raised contrary reading may become salient enough over time to block the literal interpretation, as when French Il ne faut pas partir—literally = "one needn't leave" (an O vertex modal)—can now be used only to express the stronger proposition that one must not-leave (**E** vertex). This is a modal instance of the general phenomenon of **O** >> **E** drift (Horn 1989), an upward shift along the right (negative) vertical of the modal square of opposition. Such squares were constructed by Cajetan, based on Aristotle's De Interpretatione 21b10ff. and Prior Analytics 32a18–28 (see Oesterle 1962), and by other medieval commentators.

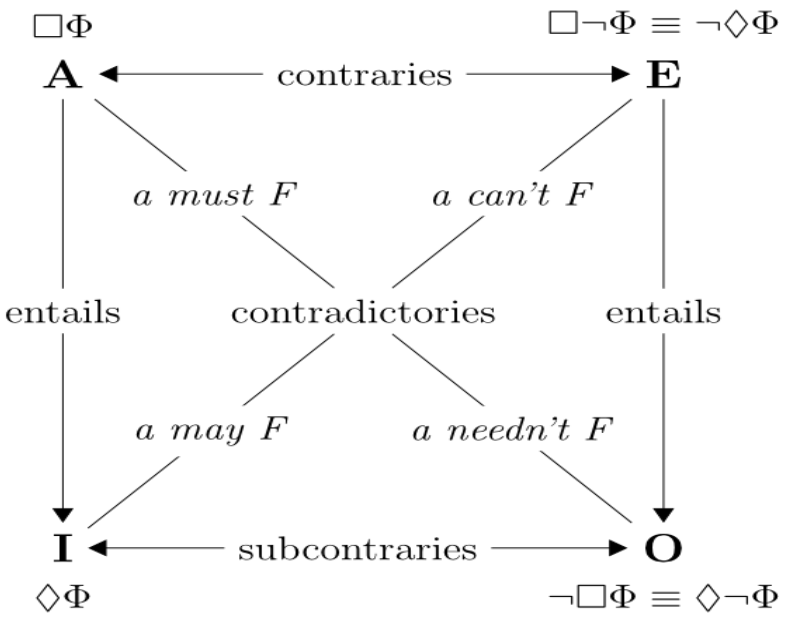


Figure 1

O>EO>E drift is attested cross-linguistically in the meaning shift of lexical items like Old English nealles (lit. "NEG all") = "not at all", Dutch nimmer (lit., "NEG always") = "never", or Russian nel'zja (lit. "NEG must") = "mustn't". The reverse shift, in which **E** forms develop **O** meanings, appears to be unattested (cf. Horn 2012).

In litotes and neg-raising, the interpretation of formal contradictories as contraries arises from the accessibility of the relevant disjunction, triggering the disjunctive syllogism. The homogeneity or all-or-none presupposition (Fodor 1970, 158ff.) applying to bare plurals, plural definites, and mass predications results in a comparable effect; it is natural to strengthen negative statements like Mammals don't lay eggs, The children aren't sleeping, or I don't eat meat to affirmations of contraries rather than understanding them as simple wide-scope negations of the corresponding positives (Mammals lay eggs, The children are sleeping, I eat meat) as would be the case with overtly quantified universals. The relevant principle has been variously formulated:

When a kind is denied to have a generic property Pkk, then any of its individuals cannot have the corresponding individual-level property Pii. (von Fintel 1997, 31)

If the predicate P is false for the NP, its negation not-P is true for the NP… Whenever a predicate is applied to one of its arguments, it is true or false of the argument as a whole. (Löbner 2000, 239)

Once again the key step is establishing the relevant disjunction as a pragmatically inferred instance of the Law of Excluded Middle, e.g., "Either mammals lay eggs or mammals don't lay eggs". In fact, this practice was first identified by Aristotle (Soph. Elen. 175b40–176a17), who offered an early version of the all-or-none (or both-or-neither) in arguing that a negative answer to a "dialectical" or conjoined question like "Are Coriscus and Callias at home?" would imply that neither is at home, given the default supposition that they are either both in or both out. Once again LEM applies where it "shouldn't"; A∨©AA∨©A behaves as though it were an instance of A∨¬AA∨¬A, triggering the disjunctive syllogism:

- (13)(Fa∧Fb)∨(¬Fa∧¬Fb)¬(Fa∧Fb)(¬Fa∧¬Fb)

Check Your Progress 1

Note: Use the space provided for your answer

1. Discuss the Negation in natural language: markedness and asymmetry.

……
……
……

2. Discuss the Matters of scope.

……
……
……

3. What is Contrariety and contradiction?

……
……
……

8.2.7 Privation, affixal negation, and the markedness asymmetry

For Aristotle, privation is an instance of opposition defined in terms of the absence or presence of a default property for a given subject:

We say that that which is capable of some particular faculty or possession has suffered privation [sterêsis] when the faculty or possession in question is in no way present in that in which, and at the time in which, it should be naturally present. We do not call that toothless which has not teeth, or that blind which has not sight, but rather that which has not teeth or sight at the time when by nature it should. (Categories 12a28–33)

A newborn kitten, while lacking sight, is thus no more "blind" than is a chair, nor is a baby "toothless".

Privation as the absence of what would be expected by nature to be present is revisited in the Metaphysics (1022b23–1023a8), where Aristotle—noting that privation can range over predictable absence, accidental removal, or deliberate "taking away by force" of the relevant property—distinguishes privation "with respect to genus", as in the blindness of moles, from privation "with respect to self", as in the blindness or toothlessness of an old man. In the end, Aristotle concedes, there may be as many senses of privation as there are a- prefixed terms in Greek (Met. 1022b33). Indeed, privation may be reanalyzed as the primary contrariety (1055a34).

In a wide range of languages, affixal negation on simplex bases reflects Aristotelian privation, whence the asymmetry between possible forms (unhappy, untrue, unkind) and impossible or unlikely ones (unsad, unfalse, uncruel). We can describe a failed comedy, but not a successful tragedy, as unfunny. As Jespersen (1917, 144) observes, the tendency of semi-productive negative affixation to be restricted to unmarked or positive bases combines with that of the preference for contrariety we have reviewed:

The modification in sense brought about by the addition of the prefix is generally that of a simple negation: unworthy = "not worthy", etc… The two terms [**X**, un**X**] are thus contradictory terms. But very often the prefix produces a "contrary" term or at any rate what approaches

one: unjust generally implies the opposite of just; unwise means more than not wise and approaches foolish, unhappy is not far from miserable, etc.

The counter-expectation property of affixal negation extends even to contradictory, middle-excluding adjectives like alive/dead; nothing can be both and nothing capable of being either can be "in between". But undead has been around since Bram Stoker's Dracula (1897) as both an adjective and a zero-derived occupational noun to describe zombies, vampires, and other creatures that are "not quite dead but not fully alive, dead-and-alive" (OED). Someone or something is undead—e.g., a vampire—if it fails to conform to one's expectation that it **should** be dead. But if something appears to be alive but does not quite fulfill that expectation, it is not undead but unalive, e.g., artificial flowers. Both the undead (but not quite alive) vampire and the unalive (but not dead) artificial flowers conform to Aristotle's notion of a privative opposite, in lacking a property associated by default rules with the respective subject.

The marked status of negative utterances has also been invoked to motivate an asymmetry in the geometry of lexicalization. Within the Square of Opposition, the Aristotelian relations of contradiction, contrariety, and subalternation are supplemented with an additional relation of subcontrariety, so called because the subcontraries are located under the contraries. As the contradictories of the two contraries, the subcontraries (e.g., Some pleasure is good, Some pleasure is not good) can both be true, but cannot both be false. For Aristotle, this was therefore not a true opposition, since subcontraries are "merely verbally opposed" (Prior Analytics 63b21–30). In pragmatic terms, the assertion of one subcontrary (Some men are bald) is not only compatible with, but actually conversationally implicates, the other (Some men are not bald), given Grice's Maxim of Quantity ("Make your contribution as informative as is required"; see the entries on Paul Grice, pragmatics, and implicature). The fact that the two members of a subcontrary pair tend to be equipollent or mutually derivable in a given context may explain the fact that only one of the two subcontraries will lexicalize in natural language, and the markedness of negation explains why this is always the positive (**I** vertex, e.g., some) and not the negative (**O** vertex,

e.g., no) value (Horn 1989, 2012). Thus the **E** values none, nor, and never are possible but the corresponding **O** values *nall (= "not all"), *nand ("or not"), and *nalways are never attested.

8.2.8 Double negation

8.2.8.1 "Logical" double negation

1.8.1 "Logical" double negation

When duplex negatio affirmat, what exactly does the double negation affirm? When a negative term is a contrary rather than a contradictory of the corresponding simple affirmative, to deny its application—Socrates isn't a not-white log—does not result in the mutual annihilation of logical double negation, any more than does the negation of a mediate contrary (She's not unhappy, It isn't uncommon). While Aristotle countenanced multiple negation, to the extent of generating such unlikely sequences as Not-man is not not-just (De Int. 19b36), each proposition contains only one instance of negation as wide-scope predicate denial (juxtaposed here with both a negated subject term and a negated predicate term), since each categorical statement contains only one predicate.

By contrast, the Stoics defined negation (apophatikon) as an iterating external operator. For Alexander of Aphrodisias, "Not: not: it is day differs from it is day only in manner of speech" (Mates 1953, 126). With their propositional connectives and one-place truth/falsity-toggling negation operator, it is the Stoics rather the Aristotelians who prefigured modern propositional logic, as well as the precepts of traditional grammar ("Duplex negatio affirmat") and the Law of Double Negation.

Classical Fregean logic allows for but one negative operator, the contradictory-forming propositional operator applying to a proposition or open sentence, in keeping with "the thesis that all forms of negation are reducible to a suitably placed "it is not the case that"" (Prior 2006, 524). Not unexpectedly, Frege (1919, 130) proclaims the logical superfluity of double negation: "Wrapping up a thought in double negation does not alter its truth value". Within this metaphor, ¬¬A¬¬A is simply a way of garbing the thought or proposition AA.

But even a single sentence-external negation (Not: The sun is shining) is a logician's construct rarely attested in the wild (Geach 1972; Katz 1977):

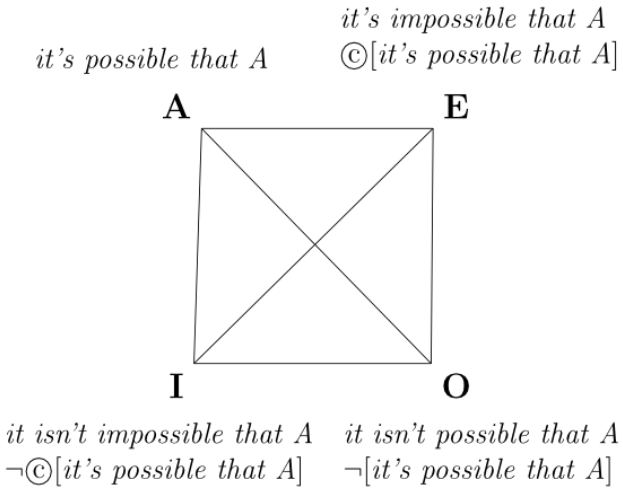
[P]ropositional negation was as foreign to ordinary Greek as to ordinary English, and [Aristotle] never attained to a distinct conception of it. The Stoics did reach such a convention, but in doing so they violated accepted Greek usage; their use of an initial oukhi must have read just as oddly as sentences like "Not: the sun is shining" do in English. (Geach 1972, 75)

Further, whether or not we admit the law of double negation in our logic, in ordinary language a doubly negated expression very seldom, if ever, has the same logical powers as the original unnegated statement. (Hintikka 1968, 47)

It is thus worth noting that the system of dual negations described by Aristotle in Prior Analytics I, Chapter 46 is both insightful and internally consistent; its echoes are recognizable in Jespersen's distinction between nexal negation (not happy) and special negation (unhappy), Von Wright's (1959) distinction between weak (contradictory) versus strong (contrary) negation, and Jackendoff's (1969) semantic reanalysis of Klima's (1964) grammatical categories of sentential versus constituent negation. In each case, a negative marker whose scope is narrower than the proposition determines a statement logically distinct from a simple contradictory.

If we represent the narrow-scope contrariety operator of It is not-white as ©AA, its contradictory, ¬¬©AA(It isn't not-white), does not return us to the simple positive AA. The result, if not the means, is similar to that in intuitionistic logic (Heyting 1956). The intuitionistic negation operator does not cancel out, given that the intuitionistic Law of Double Negation is valid in only one direction, A→¬¬AA→¬¬A, while ¬¬A→A¬¬A→A does not apply (see the entry on intuitionistic logic). Note too that the intuitionists posit just one negation operator that sustains double introduction but not double cancellation, while the Aristotelian system distinguishes contradictory (sentential) predicate denial from contrary (constituent) predicate term negation.

In ordinary language, double negation (as opposed to negative concord as in I ain't never done nothing to nobody, an agreement phenomenon in which only one semantic negation is expressed, addressed in the next section) tends not to cancel out completely. This is predictably the case when a semantic contrary is negated: not uncommon is weaker than common; one can be not unhappy without being happy. But even when an apparently contradictory negation is negated (from the unexceptionable it's not impossible to the more unusual double-not of Homer Simpson's concessive I'm not not licking toads [http://tinyurl.com/34jwhjz]), the duplex negatio of AA doesn't affirm AA, or at least provides a rhetorically welcome concealment, as Frege's metaphor of "wrapping up a thought" in double negation might suggest. The negation in such cases (impossible, not-licking) is coerced into a virtual contrary whose negation, ¬¬©AA, is weaker than (is unilaterally entailed by) AA:



8.2.8.2 Negative concord and its relations

In the previous section it was observed that when duplex negatio affirmat, what it affirms is often not simply the doubly negated proposition but the result of an incomplete cancellation yielded by the negation of an actual or virtual contrary (not unlikely, not impossible). But a more dramatic problem for the dictum is when duplex negatio negat, in particular in the form of negative concord, in which a single logical negation on the main verb spreads to indefinites and adverbs within the same clause (Labov 1972, Zeijlstra 2004, Penka 2011).

The grammar of negative concord is often complex and may be subject to a variety of factors. In standard Italian, for example, negative quantifiers following the main verb (whether as objects or postposed subjects) co-occur with mandatory negative marking on the verb to yield a single negative meaning, as in (14a). Such sentences express a simple negative meaning. But when a negative quantifier precedes the verb, negative concord is ruled out, as in (14b).

- (14)a.Gianni *(non) ha visto nessuno. “Gianni has seen nobody”
- *(Non) ha telefonato nessuno. “Nobody has telephoned”
- *(Non) ho parlato con nessuno. “I have spoken with nobody”
- b.Nessuno (*non) ha visto Gianni. “Nobody has seen Gianni”
- Con nessuno (*non) ho parlato. “With nobody have I spoken”

Negative concord is a feature of many non-standard varieties of English, especially in informal speech—or music (“I can’t get no satisfaction”).

True negative concord within a given clause represents just one kind of hypernegation, the general phenomenon in which a negative marker reinforces rather than cancels the ordinary or canonical marker of sentence negation (Horn 2010). Hypernegation may extend across clause boundaries to result in the occurrence of “pleonastic” or “expletive” negative elements in the scope of inherently negative predicates. This is exemplified by the negative markers following comparatives, before clauses, or verbs of fearing in French, Russian, Yiddish, and other languages. A standard feature of earlier stages of English, pleonastic negation persists in informal English:

- (15)a.I miss (not) seeing you around.
- b.Don’t be surprised if it doesn’t rain. [= if it rains]
- c.Not with my wife, you don’t.
- d.The proposal will not be approved, I (don’t) think.

The well-known problems encountered in processing multiple negations, verified in many psycholinguistic studies, are responsible for the appearance of other uninterpreted negations as in (16a), and the conventionalized irony or sarcasm exemplified in (16b):

- (16)a.No head injury is too trivial to ignore.
- b.I could care less.

Similarly, in French the expression Vous n'êtes pas sans ignorer que …, literally "You are not without being ignorant that …", is notoriously used in the sense of "You certainly know that …". If duplex negatio affirmat, triplex negatio confundit.

8.2.9 Negative polarity

Certain linguistic expressions in English and other languages are "polarity sensitive", restricted in their distributions to the scope of negation or semantically analogous operators, including negative quantifiers, implicitly negative predicates or adverbs, the antecedents of conditionals, comparative clauses, and the restrictors of universals:

- (17)a.I {{haven't/*have}} **ever** eaten **any** kumquats **at all**.
- b.{{Few/*Many}} of the assignments have been turned in **yet**.
- c.The dean {{rarely/*often}} **lifts a finger** to help students on probation.
- d.I {{doubt/*believe}} they're **all that** pleased with the proposal.
- e.{{All/*Many}} customers who had **ever** purchased **any** of the affected items were (***ever**) contacted.

Negative polarity items (NPIs) like those highlighted in (17) are generally restricted to downward entailing or monotone decreasing contexts, those in which inferences from sets to subsets (but not vice versa) are valid (see Fauconnier 1975; Ladusaw 1980, 1996; Peters and Westerståhl 2006; and the generalized quantifiers entry). If I've eaten kumquats, I've eaten fruit, but not necessarily vice versa; this is an upward entailing (monotone increasing) environment. On the other hand, if I haven't eaten fruit, I haven't eaten kumquats, but not necessarily vice versa; this is a downward entailing (monotone decreasing) environment.[10] It is just in the latter case that NPIs are licensed.

As (17e) shows, universals like all or every license NPIs in their restrictor (the relative clause), which is a downward entailing context (if everyone who knows logic is a vegetarian, everyone who knows classical logic is a vegetarian). But universals do not license NPIs in their nuclear scope (the predicate expression), which is an upward entailing context (if everyone who knows logic is a vegan, everyone who knows logic is a

vegetarian). This contrast indicates the insufficiency of an account of polarity licensing that simply marks a given lexical item as favorable to the occurrence of NPIs within its scope.

While downward entailment may be (generally) necessary for the licensing of NPIs, it is not necessarily sufficient, depending on the nature of the context and the NPI in question. For example, some environments that permit weak NPIs like any and ever fail to license stricter ones like in weeks or until midnight.

- (18)a.{{Nobody/Only Chris}} has **ever** proved **any** of those theorems.
- b.{{Nobody/*Only Chris}} has been here **in weeks**.

This has led to the development of more stringent algebraic conditions that some polarity items must meet, e.g., anti-additivity (Zwarts 1998). In fact, the distribution and licensing of polarity items is an important linguistic phenomenon but an extremely complex one, subject to widespread variation within and across languages; see van der Wouden 1996, Israel 2011, and Giannakidou 2011 for some complications and alternative views.

8.2.10 Metalinguistic negation

In addition to the overlapping dichotomies we have surveyed between grammatically and semantically defined varieties of negation within a given language (wide- vs. narrow-scope, sentential vs. constituent, contradictory vs. contrary, choice vs. exclusion), a "pragmatic ambiguity" has been invoked to distinguish ordinary descriptive negation from a specialized metalinguistic or echoic use (Horn 1989, chapter 6; Carston 1996; Geurts 1998; Pitts 2009).[11] In examples like (19), a speaker objects to a previous utterance on a variety of grounds, including its phonetic or grammatical form, register, or associated presuppositions or implicatures:

- (19)a.Around here we don't LIKE coffee-we LOVE it.
- b.She doesn't sell INsurance—she sells inSURance.
- c.It's not stewed bunny, honey, it's civet de lapin.
- d.I'm not HIS brother—he's MY brother!

- e.Mozart’s sonatas were for piano and violin, not for violin and piano.

Seen as representing a “pragmatic ambiguity” of natural language negation, the descriptive/metalinguistic distinction is supported by converging linguistic diagnostics suggesting that metalinguistic negation operates on a different level, whence its failure to incorporate morphologically or license negative polarity items:

- (20)a.I’m {{not happy/*unhappy}} with the plan, I’m ecstatic!
- b.You didn’t eat {{some/*any}} of the cookies, you ate them all!

8.3 THE LOGIC OF NEGATION

The logic of negation may be presented in quite different ways, by considering various styles of proof systems (axiom systems, sequent calculi, systems of natural deduction, tableaux, etc.) or different kinds of semantics (algebraic, model-theoretic, proof-theoretic, game-theoretic, etc.). Moreover, in search of characteristics of negation as a one-place connective, several dimensions of classification are available, depending on the logical vocabulary of the language under consideration (propositional, first-order, multi-modal, etc.) and the inferential framework taken into account (single antecedents (i.e., premises) and conclusions, multiple antecedents or multiple conclusions, sets, multisets, or sequences of formulas in antecedent or succedent position).

In a very elementary setting one may consider the interplay between just a single sentential negation ∼∼ and the derivability relation ⊢⊢, as well as single antecedents and single conclusions. The following inferential principles are stated as proper rules with one derivability statement (sequent) or two such statements as assumption sequent(s) and a single sequent as the conclusion, or as axiomatic sequents without any assumption sequent:

- (21)A⊢BA∼∼AA⊢B,A⊢∼BA⊢B,A⊢∼BA⊢∼B∼A⊢B/∼B⊢∼A⊢∼∼A⊢A/A⊢∼C/A⊢C/B⊢∼A/∼B⊢A(contraposition)(double negation introduction)(double negation elimination)(negative ex falso)(unrestricted ex falso)(constructive contraposition)(classical contraposition) A⊢B/∼B⊢∼A(contraposition)A⊢∼∼A(double negationintroduction)∼∼A⊢A(doublenegation

elimination)A⊢B,A⊢~B/A⊢~C(negative ex

falso)A⊢B,A⊢~B/A⊢C(unrestricted ex

falso)A⊢~B/B⊢~A(constructive

contraposition)~A⊢B/~B⊢A(classical contraposition)

The first rule, contraposition, for instance, says that if BB is derivable from AA, then the negation of AA is derivable from the negation of BB. All these rules and derivability statements are valid in classical logic (see the entry on classical logic); classical logic cannot distinguish between them. Some of these principles have been criticized and called into question in non-classical logic. The negated and unrestricted ex falso rules, for example, introduce an element of irrelevancy because they allow to derive a completely arbitrary formula CC, respectively a completely arbitrary negated formula ~C~C, form an assumption AA if a formula BB as well as its negation ~B~B are derivable from AA, see the entries on relevance logic and paraconsistent logic. Classical contraposition has been criticized because it gives rise to non-constructive existence proofs in languages containing the existential quantifier, see the entry on intuitionistic logic. In richer vocabularies, additional negation principles can be formulated, regimenting the interaction between negation and other logical operations. Prominent examples are the De Morgan Laws. In languages without implication, one may consider the following De Morgan inference rules:

- (22)(~A∨~B)~(A∨B)(~A∧~B)~(A∧B)⊢~(A∧B)⊢(~A∧~B)⊢~(A∨B)⊢(~A∨~B)(~A∨~B)⊢~(A∧B)~(A∨B)⊢(~A∧~B)(~A∧~B)⊢~(A∨B)~(A∧B)⊢(~A∨~B)

Whereas classical logic validates all of these rules, intuitionistic logic validates only the first three of them.

The proof-theoretical characterization of negation is important for the use of negation connectives in derivations. To obtain a more comprehensive understanding of negation, however, the proof theory has to be supplemented by semantics.

8.3.1 Negation as a truth function

In classical logic, the semantical principle of bivalence is assumed, saying that a formula has exactly one of two semantical values, namely

either the value T[rue] or the value F[alse] (1 or 0), but not both. Negation, ∼∼, is semantically characterized by the unary function f∼f∼ on the set {1,0}{1,0}, defined by the following truth table: f∼1001f∼1001

That is, if AA is a formula, then ∼A∼A is false if AA is true, and ∼A∼A is true if AA is false. The function f∼f∼ is said to be a truth function because it is a function defined on the set of classical truth values {1,0}{1,0}, see the entry on truth values.

If negation is meant to express semantic opposition, it is clear that the remaining two-valued truth functions fail to characterize any plausible notion of semantic opposition between AA and ∼A∼A:

fid1010f⊤1011f⊥1000fid1100f⊤1101f⊥1000

However, if a distinction is already drawn between contradictory-forming and contrary-forming sentential negations, the ground is prepared for pluralism with respect to negation seen as a unary connective. One might think of obtaining different concepts of negation by letting the negations interact with other logical operations in various ways, but this does not help concerning atomic formulas that do not contain any logical operation.

There are several ways of generalizing the semantics and making room for additional sentential negations. One comes with giving up bivalence and admitting sets of truth values (truth degrees) with more than two elements, see the entry on many-valued logic. In the so-called Łukasiewicz many-valued logics, the set of values is either the whole real unit interval [0,1] or a finite set of rational numbers from [0,1], including 1 as the designated value representing True. Łukasiewicz negation ∼∼ is defined by setting f∼(u)=1−uf∼(u)=1−u. Negation is thus understood in terms of subtraction from the numerical representation of True. In so-called Gödel many-valued logics, the truth function f∼f∼ for negation ∼∼ is defined by setting f∼(u)=1f∼(u)=1 if u=0u=0, and f∼(u)=0f∼(u)=0 if u≠0u≠0. Here negation is understood in terms of the numerical representation of True and distinctness from the numerical representation of False.

In Kleene's (strong) three-valued logic **K3**, with ii as a third value in addition to 0 and 1, the truth function f∼f∼ for negation ∼∼ is defined by the following truth table:

f∼1i00i1f∼10ii01

In **K3** a formula AA and its negation ∼A∼A cannot both be true in the sense of both taking the designated value 1, but they both fail to be true if AA receives the value ii. If a contrary pair of formulas is defined as a pair of formulas that cannot both be true but can both fail to be true, Kleene negation gives rise to contrary pairs.

Falsity (understood as receiving the value 0) and non-truth (understood as taking a value different form 1) fall apart in **K3**. As a result, contraposition fails in **K3**. Another example of a logic with a non-contraposable negation is Priest's Logic of Paradox, **LP**, see the entry on paraconsistent logic. If in **K3** or in **LP** an implication (A⊃B)(A⊃B) is defined as material implication (∼A∨B)(∼A∨B), then contraposition holds in the sense that (A⊃B)(A⊃B) entails (∼B⊃∼A)(∼B⊃∼A).

The "internal", presupposition-preserving negation ∼∼ in **K3** differs from the external, presupposition-cancelling negation ¬¬ in Bochvar's three-valued logic **B3** by always returning a classical value. The truth function f¬f¬ is defined by the following table:

f¬1i0011

8.3.2 Negation as a modal operator

Since modal operators are unary connectives and since there exist different notions of alethic necessity (necessary truth) and alethic possibility (possible truth), a rather natural question then is whether negations can be analyzed in a revealing way as modal operators, see the entry on modal logic.

Very well-known modal logics are the **normal** modal logics that have a so-called possible world's semantics making use of a two-place relation between possible worlds. Slightly less known are the **classical** (or congruential) modal logics (Segerberg 1971, Chellas 1980). The weakest requirement imposed on a necessity-like modal operator □□ in systems of classical modal logic is the congruence property:

⊢A↔B/⊢□A↔□B⊢A↔B/⊢□A↔□B

("if A↔BA↔B is provable, then so is □A↔□B□A↔□B"). This property, however, is certainly not distinctive of negation.

Classical modal logics have a semantics in terms of so-called minimal models, also known as **neighbourhood models**. A neighbourhood model is a structure MM == (W,N,v)(W,N,v), where WW is a non-empty set of possible worlds, NN is a function assigning to every ww from WW a set N(w)N(w) of subsets of WW, called neighbourhoods of ww, and vv is a valuation function mapping atomic formulas to the set of worlds where they are true. Let [[A]][[A]] be the set of worlds at which formula AA is true. Then □A□A is defined to be true at a world ww in model MM (in symbols: M,w⊨□AM,w⊨□A)iff [[A]]∈N(w)[[A]]∈N(w). In Ripley 2009 it is suggested to use the neighbourhood semantics as a general framework for semantically capturing properties characteristic of negation connectives interpreted as a necessity operator □□, see also Yu 2010. Ripley points out, for example, that the contraposition rule

A⊢B/□B⊢□AA⊢B/□B⊢□A

is valid in a neighbourhood model (W,N,v)(W,N,v) iff for every w∈Ww∈W, N(w)N(w) is closed under subsets, i.e., if X∈N(w)X∈N(w) and Y⊆XY⊆X, then Y∈N(w)Y∈N(w). It would be nice to have a convincing intuitive understanding of the neighbourhood function NN in terms of a concept that explains some core aspects of negation. If [[A]]∈N(w)[[A]]∈N(w) is understood as saying that the proposition expressed by AA is incompatible with world ww, then the above constraint emerges as reasonable because it says that if the set of worlds (the proposition) XX is incompatible with ww and proposition YY implies XX, then YY is incompatible with ww as well. Whereas Ripley starts with a positive notion (M,w⊨□AM,w⊨□A iff [[A]]∈N(w)[[A]]∈N(w)), in order to introduce a negation ∼∼, one may also stipulate that M,w⊨∼AM,w⊨∼A iff [[A]]∉N(w)[[A]]∉N(w), so as to obtain a connective that is more overtly a negative impossibility operator. The idea is that N(w)N(w) contains the sets of worlds compatible with ww, so that [[A]]∉N(w)[[A]]∉N(w) indicates that the proposition expressed by AA is incompatible with ww. Negation as an "unnecessity" operator ¬¬ in the sense of ("possibly not") is then defined

by $M,w \vDash \neg A$ $M,w \vDash \neg A$ iff $[[A]]^{\_\_\_\_\_} \in N(w)$ $[[A]]^{-} \in N(w)$, where $[[A]]^{\_\_\_\_\_}$ $[[A]]^{-}$ is the complement of $[[A]]$ $[[A]]$ with respect to WW. As a result, $\neg A \neg A$ is true at a state ww iff the complement of the proposition expressed by AA is compatible with ww.

This semantics validates respective versions of congruence ($\vdash A \leftrightarrow B / \vdash {\sim}A \leftrightarrow {\sim}B \vdash A \leftrightarrow B / \vdash {\sim}A \leftrightarrow {\sim}B$ and $\vdash A \leftrightarrow B / \vdash \neg A \leftrightarrow \neg B \vdash A \leftrightarrow B / \vdash \neg A \leftrightarrow \neg B$), but it does not yet impose any interesting constraints on negation. In order to exclude that for some world ww and formula AA, both $w \in [[A]] w \in [[A]]$ and $w \in [[{\sim}A]] w \in [[{\sim}A]]$, one has to stipulate that for every set of worlds XX, if $w \in X w \in X$ then $X \in N(w) X \in N(w)$, which makes sense under the compatibility reading of the neighbourhood function NN because it says that if XX is true at ww, then XX is compatible with ww. In order to validate contraposition, it has to be required that if $X \subseteq Y X \subseteq Y$, then $\{w \mid Y \notin N(w)\}\{w \mid Y \notin N(w)\} \subseteq\subseteq \{w \mid X \notin N(w)\}\{w \mid X \notin N(w)\}$. Under the compatibility reading of NN this condition says that every world YY is incompatible with is also a world XX is incompatible with, if proposition XX implies proposition YY.

The relational semantics of normal modal logics, however, does come with a commitment to a substantial property of negation understood as impossibility or as unnecessity. The analysis of negation as a normal impossibility operator has been developed by Vakarelov (1977, 1989b) and Došen (1984, 1986, 1999) and has been further investigated in the algebraic setting of Michael Dunn's gaggle theory (see Bimbó and Dunn 2008) by Dunn (1993, 1996, 1999) and Dunn and Zhou (2005). A **relational model** (or Kripke model) is a structure $MM == (W,R,v)(W,R,v)$, where WW is a non-empty set of information states, RR is a two-place "accessibility" relation on WW, and vv is a valuation function. Dunn denotes the accessibility relation by $\perp\perp$ (pronounced "perp") and regards it as a relation of incompatibility or orthogonality between states. Negation as impossibility, denoted by ${\sim}{\sim}$, is then semantically defined by postulating that ${\sim}A{\sim}A$ is true at a state ww in model MM iff ww is incompatible with all states uu (from WW) at which AA is true: $M,w \vDash {\sim}AM,w \vDash {\sim}A$ iff (for every uu: $M,u \vDash A$ implies $w \perp u$).$M,u \vDash A$ implies $w \perp u$). Alternatively, the

relation RR may be understood as a relation of compatibility between states, denoted by CC. M,w⊨∼AM,w⊨∼A is then defined by requiring that for every uu: wCu implies M,u⊭A.wCu implies M,u⊭A. Negation as unnecessity, denoted by ¬¬, is accordingly defined by the following clause: M,w⊨¬AM,w⊨¬A iff (there exists uu with wCu and M,u⊭A)wCu and M,u⊭A).

It proves useful to enrich the above relational semantics by another binary relation ≤≤ on the set of states WW. The relation ≤≤ is assumed to be a partial order (i.e., it is reflexive, transitive and anti-symmetric), which allows one to think of it as a relation of possible expansion of information states. With such a reading it is natural to assume that the truth of atomic formulas pp is persistent with respect to ≤≤: if w≤uw≤u and M,w⊨pM,w⊨p, then M,u⊨p.M,u⊨p. The conditions on ≤≤ and CC and the truth conditions for compound formulas should then be such that persistence (also called heredity) holds for arbitrary formulas, in particular for negated formulas ∼A∼A if negation as impossibility is considered. A **compatibility model** is a structure (W,C,≤,v)(W,C,≤,v), where (W,C,v)(W,C,v) is a Kripke model, ≤≤ is a partial order on WW, and the following condition is satisfied, which guarantees the heredity of negated formulas ∼A∼A: if wCuwCu, w′≤ww′≤w, and u′≤uu′≤u, then w′Cu′w′Cu′. This condition is a constraint on the **compatibility frame** (W,C,≤)(W,C,≤) on which a model (W,C,≤,v)(W,C,≤,v) is based. The condition is not only useful (as will become clear), but also plausible, because it says that two information states, expansions of which are compatible, are themselves compatible.

We can now define that an inference (sequent) A⊢BA⊢B is valid in a compatibility model iff for every state ww from that model, if AA is true at ww, then so is BB; A⊢BA⊢B is called valid on a compatibility frame iff A⊢BA⊢B is valid in every model based on that frame. A rule is valid on a frame iff the validity of the premises inferences on that frame guarantees the validity of the conclusion inference on the frame. The contraposition rule from the list (21) is valid on any compatibility frame. If the order-inversion expressed by contraposition is seen as a fundamental property of negation, a hierarchy of stronger negations can

be obtained syntactically by postulating further principles and semantically by characterizing these principles by means of conditions on compatibility frames (W,C,≤)(W,C,≤). This line of thought has led from a "kite" of negations in Dunn 1993 to "lopsided kites" of negations and an extended kite of negations in Shramko 2005, Dunn and Zhou 2005.

In Dunn 1993, a negation operation satisfying the contraposition rule is called **subminimal**. The term "subminimal negation" had been introduced by Allen Hazen in an unpublished paper from 1992 for a richer language containing negation, conjunction, disjunction, and intuitionistic implication to denote a negation that fails to satisfy the intuitionistically valid De Morgan inference (∼A∧∼B)⊢∼(A∨B)(∼A∧∼B)⊢∼(A∨B) and the classically but not intuitionistically valid ∼(A∧B)⊢(∼A∨∼B)∼(A∧B)⊢(∼A∨∼B). Dunn's use of the term "subminimal" is thus different from Hazen's. In Dunn and Zhou 2005 only a single negation as impossibility is used, the vocabulary is enriched by conjunction and disjunction, and in both, the one with negation, conjunction, and disjunction as well as the one with negation only, subminimal negations are referred to as preminimal negations. Moreover, the minimal negations from Dunn 1993, 1996 are called **quasi-minimal** in Dunn and Zhou 2005, because they lack negative ex falso, a property of negation in Johansson's so-called minimal logic, see Johansson 1936.

If the compatibility relation is not assumed to be symmetric (although it may be argued that compatibility between states is a symmetrical relation), then one may distinguish between two negation operations ∼1∼1 and ∼2∼2 that are defined as follows:

M,wM,w⊨∼1A iff ∀u(wCu implies M,u⊭A);⊨∼2A iff ∀u(uCw implies M,u⊭A).M,w⊨∼1A iff ∀u(wCu implies M,u⊭A);M,w⊨∼2A iff ∀u(uCw implies M,u⊭A).

The two negations form a so-called **Galois connection**, which means that A⊢∼1B iff B⊢∼2A.A⊢∼1B iff B⊢∼2A. The negations ∼1∼1 and ∼2∼2 are called Galois negations or split negations; they are both preminimal negations and satisfy the following interaction principles: A⊢∼1∼2AA⊢∼1∼2A; A⊢∼2∼1A.A⊢∼2∼1A.

Notes

As noted in Dunn 1993, 1996, if contraposition is assumed, double negation introduction A⊢∼∼AA⊢∼∼A is mutually derivable with constructive contraposition A⊢∼B/B⊢∼AA⊢∼B/B⊢∼A, and if constructive contraposition is assumed, double negation elimination is mutually derivable with classical contraposition ∼A⊢B/∼B⊢A∼A⊢B/∼B⊢A. The demonstrations use only reflexivity and transitivity of the derivability relation ⊢⊢. As a result, the above list of negation laws leads to the following unbalanced "kite" of negations (cf. Dunn and Zhou 2005):

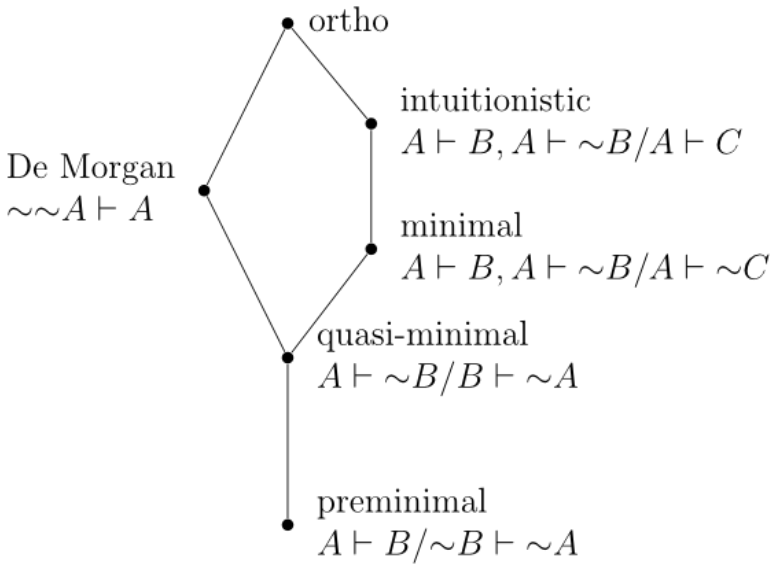


Figure 3

The graphical arrangement in this diagram is to be understood as follows: If a sequent is assigned to a node nn and node n′n′ is placed below nn, then the inference assigned to n′n′ is derivable with the aid of the sequent assigned to nn.

Ortho negations satisfy all principles shown in the lopsided kite. An ortho negation in a logic with conjunction distributing over disjunction (or, equivalently, disjunction distributing over conjunction), is called a **Boolean** or classical negation. Boolean negation is uniquely determined in the sense that if ∼1∼1 and ∼2∼2 are Boolean negations, then ∼1A∼1A and ∼2A∼2A are interderivable; ortho negation is not uniquely determined, see Restall 2000.

The negation principles of Dunn and Zhou's lopsided kite correspond in the sense of modal correspondence theory to properties of compatibility frames. A rule rr corresponds to a property EE iff the rule rr is valid on a

compatibility frame just in case the frame satisfies EE. Greg Restall (2000) observed that double negation elimination corresponds to a property of both CC **and** the relation of possible expansion of information states ≤≤, the other negation principles have been shown to correspond to properties only of the compatibility relation CC, see Dunn 1996, Dunn and Zhou 2005, Berto 2014. In the following list, "&" denotes conjunction, "⇒⇒" denotes Boolean implication, and "∀∀" and "∃∃" refer to universal and existential quantification, respectively, in the metalanguage:

A⊢∼∼AA⊢B,A⊢∼BA⊢B,A⊢∼B∼∼A⊢A/A⊢∼C/A⊢C∀x∀y(xCy⇒yCx)∀x∀y(xCy⇒xCx)∀x(xCx),∀x∀y(xCy⇒yCx)∀x∃y(xCy&∀z(yCz⇒z≤x))

A⊢∼∼A∀x∀y(xCy⇒yCx)A⊢B,A⊢∼B/A⊢∼C∀x∀y(xCy⇒xCx)A⊢B,A⊢∼B/A⊢C∀x(xCx),∀x∀y(xCy⇒yCx)∼∼A⊢A∀x∃y(xCy&∀z(yCz⇒z≤x))

The following first-order property of CC alone also corresponds to double negation elimination:

∀x∃y(xCy&∀z(yCz⇒(z=x))).∀x∃y(xCy&∀z(yCz⇒(z=x))).

We may observe that Dunn and Zhou's lopsided kite of negations can be equilibrated, for example, by inserting the inference schema ∼∼∼A⊢∼A∼∼∼A⊢∼A. This schema corresponds to the following first-order condition on CC (as calculated with the help of the SQEMA algorithm for computing first-order correspondences in modal logic due to Georgiev, Tinchev and Vakarelov (see Other Internet Resources):

∀x∀y(xCy⇒∃z(xCz&∀u(zCu⇒uCy))).∀x∀y(xCy⇒∃z(xCz&∀u(zCu⇒uCy))).

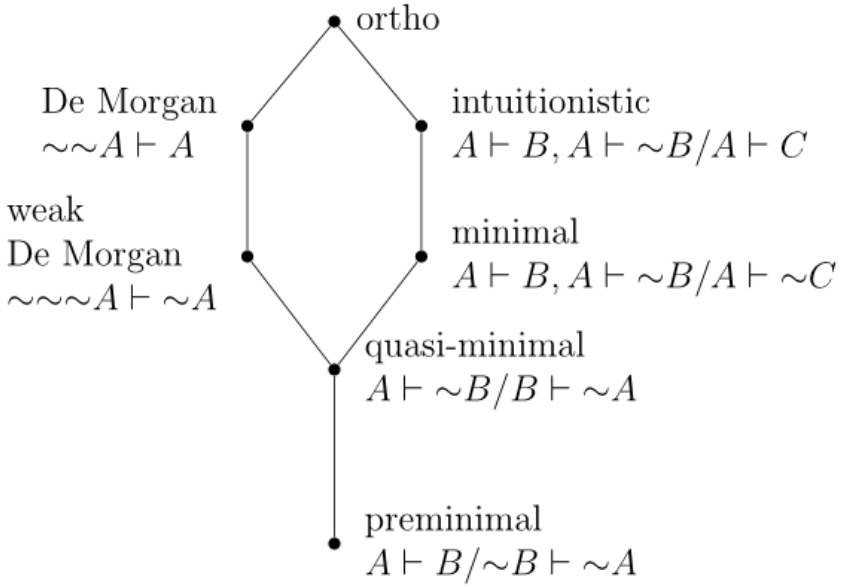


Figure 4

Negation as unnecessity gives rise to a dual lopsided kite of negations that can be combined with the lopsided kite into a "united" kite of negations, see Dunn and Zhou 2005. An even richer inclusion diagram of negations can be found in Ripley 2009.

Whilst satisfying the contraposition rule A⊢B/~B⊢~AA⊢B/~B⊢~A is a basic property of negation as a normal impossibility operator, there exist unary connectives that are referred to as negations, although they do **not** satisfy contraposition. Prominent examples of logics with a non-contraposable negation are Nelson's logics **N3**, **N4**, and **N4**⊥⊥ of constructive logic with so-called strong negation (see Nelson 1949; Gurevich 1977; Almukdad and Nelson 1984; Wansing 1993, 2001; Dunn 2000; Odintsov 2008). These logics contain intuitionistic implication as a primitive connective. Nelson (1959), however, also considers a variant of **N3** with a contraposable strong negation. In this system **S**, the contraction axiom

(A→(A→B))→(A→B)(A→(A→B))→(A→B)

is replaced by

(A→(A→(A→B)))→(A→(A→B)).(A→(A→(A→B)))→(A→(A→B)).

This replacement avoids a collapse into classical logic. Strong negation is called "strong" because it captures a notion of negation as definite falsity and because in the system **N3** the strong negation of a formula entails its intuitionistic negation. The conjunction, disjunction, and strong negation fragment of **N4** coincides with the logic of first-degree entailment **FDE**,

also known as Dunn and Belnap's useful four-valued logic (Belnap 1977a,b; Dunn 1976). Interestingly, contraposition as stated above holds for **FDE**, whereas it fails in **FDE** for multiple-premise inferences (see Problem 7, Section 8.10, p. 162 in Priest 2008).

The system **FDE** is a well-known system of relevance logic (see the entry on relevance logic) and it shares with other relevance logics the property of being a paraconsistent logic, see the entry on paraconsistent logic. Paraconsistent logics fail to satisfy the unrestricted ex falso rule, which is usually presented in a multiple-antecedent framework by the inference schema:

A,~A⊢B.A,~A⊢B.

Genuine paraconsistent logics also fail to satisfy the restricted ex falso rule. Double negation elimination and classical contraposition fail to be valid in intuitionistic logic (see the entry on intuitionistic logic); if one of them is added to an axiom system of intuitionistic logic, one obtains a proof system for classical logic.

8.3.3 Interactions with negation

As already remarked, the classification of unary connectives as negations may depend on the presence or absence of other logical operations. If the propositional language to which a negation operation is added contains only conjunction and disjunction (and atomic formulas), a natural starting point is to assume that one is dealing with a so-called distributive lattice logic (cf. Dunn and Zhou 2005). A distributive lattice logic is a single-antecedent and single-conclusion proof system in the language with only conjunction ∧∧ and disjunction ∨∨. In addition to reflexivity and transitivity of the derivability relation ⊢⊢, the following inferential schemata are assumed:

- A∧B⊢AA∧B⊢A, A∧B⊢BA∧B⊢B,
- A⊢BA⊢B, A⊢CA⊢C / A⊢(B∧C)A⊢(B∧C),
- A⊢CA⊢C, B⊢CB⊢C / (A∨B)⊢C(A∨B)⊢C,
- A⊢(A∨B)A⊢(A∨B), B⊢(A∨B)B⊢(A∨B),
- (A∧(B∨C))⊢((A∧B)∨(A∧C))(A∧(B∨C))⊢((A∧B)∨(A∧C)).

In this extended vocabulary one may consider further negation principles, in particular the De Morgan inferences from (22):

(~A∨~B)~(A∨B)(~A∧~B)~(A∧B)⊢~(A∧B)⊢(~A∧~B)⊢~(A∨B)⊢(~A∨~B)(~A∨~B)⊢~(A∧B)~(A∨B)⊢(~A∧~B)(~A∧~B)⊢~(A∨B)~(A∧B)⊢(~A∨~B)

The first three De Morgan rules are valid on any compatibility frame (if the standard evaluation clauses for ∧∧ and ∨∨ are assumed), and they can be proved utilizing standard inference rules for ∧∧ and ∨∨ (cf. Restall 2000). Whereas the first two De Morgan laws, however, can be proved using only contraposition and inference rules for ∧∧ and ∨∨, a derivation of the third De Morgan law requires the application of constructive contraposition:

(~A∧~B)⊢(~A∧~B)(~A∧~B)⊢~AA⊢~(~A∧~B)(~A∧~B)⊢(~A∧~B)(~A∧~B)⊢~BB⊢~(~A∧~B)(A∨B)⊢~(~A∧~B)(~A∧~B)⊢~(A∨B)
(~A∧~B)⊢(~A∧~B)(~A∧~B)⊢~AA⊢~(~A∧~B)(~A∧~B)⊢(~A∧~B)(~A∧~B)⊢~BB⊢~(~A∧~B)(A∨B)⊢~(~A∧~B)(~A∧~B)⊢~(A∨B)

The proof system for preminimal negation in the extended language given by the rules for distributive lattice logic together with contraposition is incomplete, and a complete proof system is obtained if (~A∧~B)⊢~(A∨B)(~A∧~B)⊢~(A∨B) is added (cf. Dunn and Zhou 2005 for the language with constants ⊤⊤ and ⊥⊥ added). The remaining fourth De Morgan law is provable in the presence of double negation elimination. The following derivation makes use of both double negation elimination and classical contraposition (cf. Restall 2000):

~A⊢~A~A⊢(~A∨~B)~(~A∨~B)⊢A~B⊢~B~B⊢(~A∨~B)~(~A∨~B)⊢B~(~A∨~B)⊢(A∧B)~(A∧B)⊢(~A∨~B)~A⊢~A~A⊢(~A∨~B)~(~A∨~B)⊢A~B⊢~B~B⊢(~A∨~B)~(~A∨~B)⊢B~(~A∨~B)⊢(A∧B)~(A∧B)⊢(~A∨~B)

Restall (2000) showed
that ~(A∧B)⊢(~A∨~B)~(A∧B)⊢(~A∨~B) corresponds to the mixed frame condition

∀x∀y1∀y2((xCy1&xCy2)⇒∃z(y1≤z&y2≤z&xCz)).∀x∀y1∀y2((xCy1&xCy2)⇒∃z(y1≤z&y2≤z&xCz)).

The algorithm SQEMA gives the following first-order condition for ~(A∧B)⊢(~A∨~B)~(A∧B)⊢(~A∨~B) in terms of CC alone:

∀x∀y∀z(xCy⇒(xCz⇒((y=z)&xCy))).∀x∀y∀z(xCy⇒(xCz⇒((y=z)&xCy))).

In the extended language, negative ex falso can be stated as $(A\wedge\sim A)\vdash\sim B(A\wedge\sim A)\vdash\sim B$ and unrestricted as falso as $(A\wedge\sim A)\vdash B(A\wedge\sim A)\vdash B$. It is also natural to assume a constantly true formula $\top\top$ and a constantly untrue formula $\bot\bot$, so that the following inferences are valid $A\vdash\top A\vdash\top$, $\bot\vdash A\bot\vdash A$, and $\top\vdash\sim\bot\top\vdash\sim\bot$. Whereas these inferences are indeed valid on any compatibility frame, the equally natural $\sim\top\vdash\bot\sim\top\vdash\bot$ corresponds with the seriality of $C:\forall x\exists y(xCy)C:\forall x\exists y(xCy)$. In the extended vocabulary, unrestricted ex falso can be stated as $(A\wedge\sim A)\vdash\bot(A\wedge\sim A)\vdash\bot$, and in this form it is characterized by the reflexivity of the compatibility relation. The law of excluded middle $\top\vdash(A\vee\sim A)\top\vdash(A\vee\sim A)$ corresponds to the mixed condition $\forall x\forall y(xCy\Rightarrow y\leq x)\forall x\forall y(xCy\Rightarrow y\leq x)$ but also to $\forall x\forall y(xCy\Rightarrow(x=y))\forall x\forall y(xCy\Rightarrow(x=y))$.

Another interesting classification arises if it is assumed that the language under consideration contains a primitive implication connective $\rightarrow\rightarrow$ that is not defined by putting $(A\rightarrow B):=(\sim A\vee B)(A\rightarrow B):=(\sim A\vee B)$, or a primitive so-called co-implication (or subtraction) operation $-<-<$ not defined by putting $(A-<B):=(A\wedge\sim B)(A-<B):=(A\wedge\sim B)$, or both. The standard understanding of negated implications is conveyed by the equivalence $\sim(A\rightarrow B)\leftrightarrow(A\wedge\sim B)\sim(A\rightarrow B)\leftrightarrow(A\wedge\sim B)$. Dually, the classical reading of negated co-implications is expressed by $\sim(A-<B)\leftrightarrow(\sim A\vee B)\sim(A-<B)\leftrightarrow(\sim A\vee B)$. Co-implication is the dual of implication, insofar as it stands to disjunction as implication stands to conjunction:

- $(23)(A\wedge B)\vdash CC\vdash(A\vee B)$ iff $A\vdash(B\rightarrow C)$ iff $B\vdash(A\rightarrow C)$, iff $(C-<B)\vdash A$ iff $(C-<A)\vdash B$.$(A\wedge B)\vdash C$ iff $A\vdash(B\rightarrow C)$ iff $B\vdash(A\rightarrow C),C\vdash(A\vee B)$ iff $(C-<B)\vdash A$ iff $(C-<A)\vdash B$.

A formula $(A-<B)(A-<B)$ may be read as “BB co-implies AA” or as “AA excludes BB”. If implication and co-implication are primitive and not defined as in classical logic (and some other logics), further readings of negated implications and co-implications are given by the following equivalences:

- (24)∼(A→B)∼(A−<B)∼(A→B)∼(A−<B)↔(A−<B),↔(A→B),↔(∼B−<∼A),↔(∼B→∼A).∼(A→B)↔(A−<B),∼(A−<B)↔(A→B),∼(A→B)↔(∼B−<∼A),∼(A−<B)↔(∼B→∼A).

In the literature, however, one may also find a less-standard reading of negated implications (and consequently also a corresponding non-standard understanding of negated co-implications). This unusual reading of negated implications is usually tracked back to Aristotle and is referred to as the connexive version of (negated) implications (cf. Wansing 2005, McCall 2012 and the connexive logic entry). Equivalences characteristic of connexive implication and co-implication are:

- (25)∼(A→B)↔(A→∼B)∼(A→B)↔(A→∼B), ∼(A−<B)↔(∼A−<B)∼(A−<B)↔(∼A−<B).

The preceding typology of negated implications and co-implications has been developed in Wansing 2008, and one might add to this list the equivalences ∼(A→B)↔(B→∼A)∼(A→B)↔(B→∼A) and ∼(A−<B)↔(∼B−<A)∼(A−<B)↔(∼B−<A).

Once there is more than just a single negation connective available, the interplay between these operations can be considered. Although classical and intuitionistic logic as well as the familiar systems of modal logic comprise only one negation operation, there are also very naturally arising logical systems with more than just one negation, and the motivation for taking into account multiple negations not only comes from natural language semantics but also from the field of knowledge representation, see, for instance, Wagner 1994.

A well-known example of a logic with two negation operations is Heyting-Brouwer logic, also known as bi-intuitionistic logic, see Rauszer 1980, Goré 2000. In addition to intuitionistic negation, bi-intuitionistic logic contains a so-called co-negation that is in a sense dual to intuitionistic negation. In bi-intuitionistic logic ⊤⊤ is definable as (p→p)(p→p) and ⊥⊥ as (p−<p)(p−<p) for some atomic formula pp. The intuitionistic negation ∼A∼A of AA is then definable as (A→⊥(A→⊥) and the co-negation ¬A¬A of AA as (⊤−<A)(⊤−<A). Whereas intuitionistic negation is a forward looking impossibility operation with respect to the information order in compatibility frames,

i.e.,M,w⊨∼A iff ∀u(w≤u implies M,u⊭A),M,w⊨∼A iff ∀u(w≤u implies M,u⊭A), co-negation is a backward looking unnecessity operator: M,w⊨¬A iff ∃u(u≤w and M,u⊭A).M,w⊨¬A iff ∃u(u≤w and M,u⊭A). Another version of bi-intuitionistic logic, called 2Int, with a different notion of co-negation has been developed in Wansing 2013.

Other examples of logics with more than just one negation are provided by logics with Galois negations. Moreover, in so-called **trilattice logics** (cf. Shramko and Wansing 2011) a distinction is drawn between a truth negation ∼t∼t and a falsity negation ∼f∼f. Whereas truth negation is interpreted by a unary algebraic operation that inverts a truth order on a set of generalized truth values (see the entry on truth values), falsity negation is interpreted by an operation inverting a falsity order on generalized truth values. Furthermore, there is an information negation ∼i∼i understood as an information order inversion. The three negations satisfy not only contraposition, but they are also "period two", i.e., they satisfy the double negation law in both directions. Obviously, in such a setting various double and triple negation laws may be considered, see also Kamide and Wansing 2012. An in-depth investigation of a hierarchy of double negation principles can be found in Kamide 2013.

8.3.4 Other conceptions of negation as a unary connective

There are several other approaches to negation that build on quite different ideas of expressing semantic opposition. A meta-level conception of negation, for example, is the so-called **negation as failure** that has been developed in logic programming. The seminal paper Clark 1978 suggests the higher-level negation as failure rule: ⊢∼⊢p infer ⊢∼p⊢∼⊢p infer ⊢∼p. The idea is that ∼p∼p may be inferred if the exhaustive search for a proof of the atomic statement pp failed.

In Hintikka's (1973) game-theoretical semantics, negation is modeled by a role-switch between two players in a semantical game (cf. the entry on logic and games). A geometrical intuition of **negation as inversion** can be found in a paper by Ramsey, who suggested that

[w]e might, for instance, express negation not by inserting a word “not”, but by writing what we negate upside down. Such a symbolism is only inconvenient because we are not trained to perceive complicated symmetry about a horizontal axis, and if we adopted it, we should be rid of the redundant “not-not”, for the result of negating the sentence “pp” twice would be simply the sentence “pp” itself. (F.P. Ramsey 1927, 161–2)

The idea of negation as the inversion of arrangements of truth values, such as truth value polygons, has been developed in Varzi and Warglien 2003, see also Shramko and Wansing 2011 for negation as order-inversion in a logic of generalized truth values.

In order to extend Dummett’s verificationism (cf., e.g., Dummett 1996) from mathematical to empirical discourse, a notion of “empirical negation” has been suggested (see De 2011, 2013). A formula $\sim A \sim A$ is read as “AA is not warranted by our current state of evidence” and it is evaluated with respect to a distinguished base state gg in a model MM: $M,w \vDash \sim AM,w \vDash \sim A$ iff $M,g \nvDash AM,g \nvDash A$.

The supplement document “Additional Conceptions of Negation as a Unary Connective” briefly addresses the following approaches, where negation will be denoted as $\neg\neg$ (if not stated otherwise):

Negation as the Routley star

The notion of Routley star negation is more general than the notion of empirical negation. The Routley star is a unary function $**$ on possible worlds that delegates the semantic evaluation of a negated formula $\neg A \neg A$ at a world or state ww to the state $w*w*$: $\neg A \neg A$ is true at a ww in a model MM iff AA is not true at $w*w*$ in MM.

Negation as inconsistency. The notion of negation as inconsistency is based on the idea that the negation of AA expresses that AA implies (or allows to derive) something absurd or even something “unwanted”.

Negation as contradictoriness

The idea of negation as contradictoriness is to explicate negation by understanding $\neg A \neg A$ as the contradictory of AA, where the relationship of contradiction may be defined in terms of certain logical laws, such as the Law of Excluded Middle and the Law of Non-Contradiction.

Negation as falsity

According to negation as falsity, the negation ¬A¬A of AA expresses that AA is definitely false. This approach to negation is related to the view that a proof of ¬A¬A is a direct falsification of AA.

Negation as cancellation

Negation as cancellation develops the idea that the content of the proposition expressed by ¬A¬A erases or annihilates the content of the proposition expressed by AA.

Perfect negation

Perfect negation is a rather restrictive notion of negation that has been developed by Avron (1999, 2002) in terms of proof-theoretical as well as semantical conditions.

8.3.5 Negation, rejection, and denial

As already remarked, negation has been analyzed, for example, as a truth-functional operator, a modal operator, a propositional attitude, and a speech act. The exact relation between negation as a connective, the propositional attitude of rejection and, notably, the speech act of denial is contentious. There is, as a kind of orthodox view, a thesis defended by Frege (1919) and Geach (1965), which Ripley (2011b, 623) calls **the denial equivalence**, namely that Denial and rejection should be understood in terms of negation, along with assertion and belief. … [T]o deny content just is to assert its negation, and to reject a content just is to believe its negation.

There is, however, no clear syntactic restriction on speech acts of denial, as denials can be realized not only by assertions of negated sentences but, for example, also by means of irony. Moreover, whereas negated sentences can be embedded into compound sentences, speech acts cannot be constituents of other speech acts. Therefore, if it is held that to deny **is** to assert a negation, the idea is that acts of denial can be analyzed as assertions of (propositions expressed by) negated sentences. It may, for instance, be held that it is revealing to understand denials of AA as assertions of ©A©A, for some contrary-forming negation operator ©©.

But there is also a position called “rejectivism” defended by, for example, Price (1983, 1990), Smiley (1996), and Rumfitt (2000). Lloyd Humberstone (2000, 331) characterizes rejectivism as follows:

Whether assent ("acceptance") and dissent ("rejection") are thought of as speech acts or as propositional attitudes, the idea of rejectivism is that a grasp of the distinction between them is prior to our understanding of negation as a sentence, this operator then being explicable as applying to AA to yield something assent to which is tantamount to dissent from AA.

At issue is the conceptual priority of the notions of assertion and denial over the concept of negation. But if the notion of denial is conceptually prior to the concept of negation, one may wonder why negation is needed at all and how Frege's argument that an account of negation in terms of denial does not make sense of embedded negations can be met.

As Ripley (2011b) remarks, rejectivists are typically inferentialists, i.e., they hold that the meaning of the logical operations can be explicated in terms of meaning-conveying rules. If inferentialism is developed in terms of rules for asserting **and** rules for denying compound formulas (as, for example, in Price 1983, 1990; Rumfitt 2000) according to Ripley (2011b), the above questions can be answered by explaining that negation is a switch between warranted assertability conditions and warranted deniability conditions. This role of negation is similar to the role strong negation in Nelson's logics plays in turning support of truth conditions into support of falsity condition, and vice versa. Price (1990, 225) argues that

if we allow that (an utterance of) ~P~P may properly be regarded both as a denial with content PP and as an assertion with content ~P~P, then Frege's argument is powerless; for in this case the latter reading is available to explain the contribution of ~P~P to complex constructions, in the standard way.

But one may require more from the rejectivist, namely that every formula is logically equivalent to a formula in what Humberstone (2000, Footnote 10) calls "Bendall normal form", namely to a formula that contains at most one occurrence of the negation sign as the principal connective. According to Bendall (1979, 68), the redundancy in this sense of the embedding of a negation operator,

opens the way for an attempt to construe the meaning of negation as deriving from the mental or behavioral phenomena of judgment, disbelief, and denial.

Check Your Progress 2

Note: Use the space provided for your answer

4. Compare the Negation, presupposition, and singular terms.

……

……

……

5. Discuss the contradiction to contrariety: pragmatic strengthening of negation.

……

……

……

6. What is Privation, affixal negation, and the markedness asymmetry?

……

……

……

8.4 LET US SUM UP

Semantics involves the deconstruction of words, signals, and sentence structure. It influences our reading comprehension as well as our comprehension of other people's words in everyday conversation. Semantics play a large part in our daily communication, understanding, and language learning without us even realizing it.

For example, in everyday use, a child might make use of semantics to understand a mom's directive to "do your chores" as, "do your chores whenever you feel like it." However, the mother was probably saying, "do your chores right now."

Since meaning in language is so complex, there are actually different theories used within semantics, such as formal semantics, lexical semantics, and conceptual semantics.

- **Formal Semantics** - Formal semantics uses techniques from math, philosophy, and logic to analyze the broader relationship between language and reality, truth and possibility. Has your teacher ever asked you to use an "if… then" question? It breaks apart lines of information to detect the underlying meaning or consequence of events.
- **Lexical Semantics** - Lexical semantics deconstruct words and phrases within a line of text to understand the meaning in terms of context. This can include a study of individual nouns, verbs, adjectives, prefixes, root words, suffixes, or longer phrases or idioms.
- **Conceptual Semantics** - Conceptual semantics deals with the most basic concept and form of a word before our thoughts and feelings added context to it.

  For example, at its most basic we know a cougar to be a large wild cat. But, the word cougar has also come to indicate an older woman who's dating a younger man. This is where context is important.

Conceptual semantics opens the door to a conversation on connotation and denotation. Denotation is the standard definition of a word. Meanwhile, connotation deals with the emotion evoked from a word. Connotation will be derived from the manner in which you interpret a word or sentence's meaning. As such, semantics and connotation are deeply entwined. For a deeper dive, read these examples and exercises on connotative words.

Semantics in Everyday Life

One part of studying language understands the many meanings of individual words. Once you have a handle on the words themselves, context comes into play. The same word can be said to two people and they can interpret them differently.

For example, imagine a man told a woman, "I care for you… a lot." Wouldn't that made the woman's heart melt? Sure, if he just said that out of the blue, walking down the beach one day. But, what if the woman told the man, "I love you," and, after a long pause, all he said was, "I care for you… a lot." She'd be crushed. So, context (the current situation) will always play a role in everyday semantics.

Here are some examples of everyday words that can have more than one meaning:

- A water pill could be a pill with water in it but it is understood to be a diuretic that causes a person to lose water from his body.
- "Crash" can mean an auto accident, a drop in the Stock Market, to attend a party without being invited, ocean waves hitting the shore, or the sound of cymbals being struck together.
- Depending on context, a flowering plant could be referred to as a weed or a flower.
- A human can be referred to as a male, female, child, adult, baby, bachelor, father or mother.
- To call someone a lady means more than simply being female. Semantics tell us that, if she's a lady, she possesses elegance and grace.
- "Young" can allude to a colt, filly, piglet, baby, puppy, or kitten.
- To say something was challenging leads us to believe it was not a good experience. It wasn't just difficult, it was also unpleasant.
- The verb "move" can mean change place, push, pull or carry, or stir emotion.
- To call someone an angel doesn't mean they inhabit heaven. Semantics leads us to believe they have a lovely disposition.
- The word "create" can mean build, make, construct, erect, compose or imagine.
- The simple word "on" can have many meanings, such as: on call, on the roof, on cloud nine, on edge, on fire, on purpose, on demand, on top, or on the phone.

Situational Semantics

Remember the different connotations of the phrase, "I care for you?" Let's revisit the idea that a single line of text can be interpreted in different ways. Suppose a college grad was just hired to a new job. She was excited to start this new chapter; everything seemed glossy and bright.

On the first day, her boss mentions she'll have to travel to the new Miami office to help the office hit the ground running. In reality, she'll be going

there to do very mundane chores like order office supplies and clean the cubicles (something that nobody else wants to do).

So, as the new employee exclaims, "You chose me? Thank you!" and the supervisor says, "Yup, I chose you all right," we'll know that, given the context of the situation, the supervisor isn't saying this in a positive light. However, the new employee will interpret it to mean something very positive.

Or, what if a husband comes home with what he labels a "brand new" coffee table. He might tell his wife it was a steal and a gorgeous new piece for their home. The wife might take one look at it and say, "This isn't new. I saw this at the local consignment shop the other day." The husband might retort, "Semantics. It's new to us!" Indeed, two people can take one word or expression and take it to mean entirely different things.

Semantics in Puns

In your reading, you may come across a pun or two. Puns like to play on words. They deliberately use multiple meanings to reshape the meaning of a sentence. So, what we understand a word to mean can be twisted to mean something else.

We'll see this in the examples below. In the first one, we know littering to mean something like tossing garbage out the window as we drive. But, the play on words is being made by the fact that dogs have "litters" of puppies. They're fun! Let's take a look:

- A dog gave birth to puppies near the road and was cited for littering.
- "One morning I shot an elephant in my pajamas. How he got into my pajamas I'll never know."- Groucho Marx
- Let's talk about rights and lefts. You're right, so I left.
- Time flies like an arrow. Fruit flies like a banana.
- Diet slogan: Are you going the wrong weigh?
- I fired my masseuse today. She just rubbed me the wrong way.
- The best way to communicate with a fish is to drop them a line.
- Two silkworms had a race. They ended up in a tie.

8.5 KEY WORDS

Semantics: the historical and psychological study and the classification of changes in the signification of words or forms viewed as factors in linguistic development

8.6 QUESTIONS FOR REVIEW

1. Discuss about the Semantics of Negative Statements.
2. How could you understand the sentiments of negativity?

8.7 SUGGESTED READINGS AND REFERENCES

- σημαντικός. Liddell, Henry George; Scott, Robert; A Greek–English Lexicon at the Perseus Project
- Chambers Biographical Dictionary, 5e.1990, p.202
- Neurath, Otto; Carnap, Rudolf; Morris, Charles F. W. (Editors) (1955). International Encyclopedia of Unified Science. Chicago, IL: University of Chicago Press.
- Cruse, Alan; Meaning and Language: An introduction to Semantics and Pragmatics, Chapter 1, Oxford Textbooks in Linguistics, 2004; Kearns, Kate; Semantics, Palgrave MacMillan 2000; Cruse, D. A.; Lexical Semantics, Cambridge, Massachusetts, 1986.
- Kitcher, Philip; Salmon, Wesley C. (1989). Scientific Explanation. Minneapolis, MN: University of Minnesota Press. p. 35.
- Trofimova, I (2014). "Observer bias: how temperament matters in semantic perception of lexical material". PLoS ONE. 9 (1): e85677. doi:10.1371/journal.pone.0085677. PMC 3903487. PMID 24475048.

8.8 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 8.2
2. See Section 8.3
3. See Section 8.4

UNIT 9: INTENSIVE STUDY OF GANGESA'S TATTVACINTĀMANI

STRUCTURE

9.0 OBJECTIVES

After going through this unit, students will know about some Indian rationalists and empiricists. Gautam accepts four sources of knowledge which can be brought under three categories:

1) sense-experience,

2) Reason,

3) Authority.

Charavaka accepts only one source of knowledge and that is perception.

9.1 INTRODUCTION

Tattvacintāmaṇi is a treatise in Sanskrit authored by 12th-century CE Indian logician and philosopher Gangesa Upadhyaya (also known as Gangesvara Upadhyaya). The title may be translated into English as "A Thought-jewel of Truth." The treatise is also known as Pramāṇa-cintāmaṇi ("A Thought-jewel of Valid Knowledge").

The treatise introduced a new era in the history of Indian logic. Satis Chandra Vidyabhusana in his authoritative 681-page history of Indian logic divided the millennia long history of Indian logic into three sometimes-overlapping periods: Ancient period (650 BCE–100 CE), Medieval period (100–1200 CE) and Modern period (from 900 CE). He also identified certain standard work as typical representative of each of these periods. Tattvacinthamani of Gangesa is the text identified as the standard work of the Modern period in the history of Indian logic, the standard works for the earlier periods being Nyāya Sūtra by Akṣapāda Gautama (Ancient period) and Pramāṇa-samuccaya by Dignāga (Medieval period). The fact that Tattvacintāmaṇi was highly popular is attested by the appearance of numerous commentaries that have been produced in the centuries that followed the appearance of the book. It has been estimated that while the original text of Tattvacintāmaṇi has about 300 pages, all the commentaries put together contain about a million pages

Epistemiology in Indian philosophical tradition is highly developed. Indian philosophers have thoroughly discussed the issues regarding the nature of knowledge (pramâ), the means or sources of knowledge (pramânas), objects of knowledge (prameya), the knower of knowledge (pramâtâ), and the extent and limit of human knowledge. They have also critically discussed the problem of error in human knowledge. There are nine main Indian philosophical systems. They are traditionally classified into two groups, the âstika and the nâstika. Âstika systems accept the authority of the Vedas as the source of traditional knowledge. They also accept other means of knowledge, especially Nyâya. Nâstika systems do not accept the authority of the Vedas as a source of any kind of knowledge. Thus Âstikas are Vedic systems and Nâstikas are non-Vedic systems of philosophy. We need not discuss different sources of knowledge accepted by different schools of Indian philosophy. Here we are mainly concerned only with two views: the Nyâya view of sources of knowledge and that of the Charavakas.

9.2 INTENSIVE STUDY OF GANGESA'S TATTVACINTĀMANI

Author of Tattvacintāmaṇi

Gangesa Upadhyaya, also known as Gangesvara Upadhyaya, a Maithila Brahmin, who flourished during the 12th century CE, is the author of Tattvacintāmaṇi. Gangesa was a native of Mithila, was born in a village named Chadana and lived his later life in a village named Karion on the banks of the river Kamala, twelve miles south-east of Darbhanga. There is a legend to the effect that Gangesa was completely illiterate while he was young and propitiated the goddess Kali on the cremation ground adjacent to his uncle's house, and acquired from her, as a boon, deep erudition in the science of Logic. He belonged to Kashyapa-gotra. It is believed that he had several wives, three sons and a daughter. One of his sons was Vardhamana Upadhyaya who was also a pupil of Gangesa. Varadhamana himself became a great scholar of nyaya and composed a commentary on Tattvacintāmaṇi named Tattvacintāmaṇi-prakasa and also several other work.

The result of collaboration between two of the world's leading experts on Gaṅgeśa, it is a monumental and momentous achievement, one whose importance cannot be understated. Without doubt, it will add enormous impetus to the contemporary study of Navya Nyāya, the philosophical system Gaṅgeśa established, a system which dominated the Indian philosophical world for several centuries in the middle of the last millennium. Gaṅgeśa's Tattvacintāmaṇi is made up of four chapters, one for each of the four sources of knowedge (pramāṇa) recognised in Nyāya philosophy. A great deal of both classical and modern scholarship in Navya Nyāya is dominated by the commentarial literature on the second chapter, which deals with inference. This is perhaps a pity, for the chapters on perception and on language are extremely rich and challenging works in their own right. The perception chapter, for instance, treats a host of topics in epistemology, metaphysics and the philosophy of mind as they bear upon the nature of perceptual awareness and perceptual knowledge. Prefaced with a treatment of 'auspicious performance' (maṅgala), it is divided into the following sections: knowing veridicality, production of veridical cognition, characterizing veridical awareness, perceptual presentation of something as other than what it is, characterizing perception, sensory connection, inherence,

noncognition, absence, the connection of the sense object and light, the perceptibility of air, the fiery character of gold, the mind's atomicity, apperception, indeterminate perception, qualifiers versus indicators, and finally determinate perception.

The present unit contains, in addition to the text itself in transliteration (largely following the Tirupati edition, but cross-referred to the Calcutta) and a translation of the text, an extensive paragraph-by-paragraph 'philosophical commentary' and an Introduction that sets out Gaṅgeśa's system in broad outline. It was not the intention of the authors to prepare a critical edition of the text, although it is certainly to be hoped that a critical edition of a text of such importance will, one day, be produced. They do, however, construct the text in the light of their understanding of its content, and so assert that their "transliterated text is an edition distinct from the Tirupati edition, representing how Ramanuja Tatacharya and I [Stephen Phillips] read Gaṅgeśa" (p.6). They have made editorial decisions about how to parse the text into discourse segments – for example, in identifying pūrva-pakṣas and siddhāntas – and they have adopted interpretative principles of intelligibility, readability, and charity, so that, in particular, they "interpret a philosopher as trying, in any particular instance, to say something true and warranted as well as coherent with his or her overall view" (p.5). Some portions of the present text have been translated before. Jitendranath Mohanty's Gaṅgeśa's Theory of Truth, Santiniketan 1966, was a pioneering and extremely influential translation and philosophical study of the 'Knowing veridicality' section. In comparison with that work, the present book is distinctive in consciously making less use of the traditional commentaries: for "[i]t is commonly acknowledged … that the classical commentators sometimes overinterpret Gaṅgeśa's questions. Much in their long discussions is innovative philosophically." p.73). The new translation differs from Mohanty's classic in two chief respects: it construes the term pramā as "veridical" rather than as "true" (or, as Karl Potter has suggested, "workable"); and it takes issue with Mohanty's understanding of the term prathamam as indicating a discussion of the problem of knowing for the first time à la Meno, rather than as of knowing in unfamiliar circumstances (pp. 102–5, 699).

Another section of the present text, ‘Absence’, was translated by Bimal Krishna Matilal, forming the basis of his massively important work, The Navya-Nyāya Doctrine of Negation, Harvard 1968, a book which remains, along with Daniel Ingalls’ Materials for the Study of Navya-Nyāya Logic, Harvard 1951, indispensable to the modern study of Navya Nyāya. Matilal too makes much more use of the traditional commentaries than the present work wants to. He also makes much more use of the vocabulary of contemporary analytical philosophy, which lead him, say the authors of the work under review, to “fail to do justice to Gaṅgeśa’s objectivism and realism” (p.704). It is indeed a recurring theme in the present book that contemporary interpreters of Navya Nyāya tend to understate the degree to which Gaṅgeśa’s epistemology is externalist, or to ‘misread’ its critical terminology with an internalist bias inherited from Western epistemology. I would like to use the remainder of this review to take a few tentative steps in the direction of that new and substantive engagement with Gaṅgeśa’s thought which this book has made possible. My remarks will concern Tatacharya/Phillip’s Gaṅgeśa rather than Gaṅgeśa himself (as philosophers might discuss the merits of Kripke’s Wittgenstein without getting into the issue of its relationship with the Wittgenstein discovered by the historians of philosophy). We are told in this book that Gaṅgeśa “defends a realist view of everyday objects and a causal view of learning about them” (p. 7), one in which the so-called ‘knowledge-generators’ are “natural processes, part of the universe’s causal web” (ibid.). We are also told that Gaṅgeśa has an externalist epistemology (p.10), and that this epistemology is also defeasibilist (p.20). We are told that Gaṅgeśa’s metaphysical realism leads him to “embrace fallibilism” (p. 21; cf. p. 17). But we are also told that he is an infallibilist (p.8).

It turns that the sense in which Gaṅgeśa is to be considered a fallibilist is quite a trivial one: he is a fallibilist about cognitions, meaning that cognitions can be true or false. In the sense in which the term “fallibilism” is more usually taken, that is as bearing upon the sources of knowledge themselves, Gaṅgeśa, it is said, is an infallibilist: no cognition which is produced by one of the attested sources of knowledge can be false. In a similar vein, it turns out that the sense in which Gaṅgeśa is a

"defeasibilist" is not the usual one, in which to be a defeasibilist is to admit that the warrant one has for one's thoughts can be undermined; rather, it means here that a source of knowledge can be defeated in its attempt to generate true cognitions. I will ask two questions about this naturalist, externalist, infallibilist realism. First, is the infallibilism on offer compatible with naturalism? Second, is it compatible with realism? Gaṅgeśa's alleged infallibilism appears to emerge as a consequence of two theses. The first thesis is as follows: [1] x is pramā if and only if x is true. I am not sure why Phillips and Tatacharya choose the term "veridical" in preference to the simple "true" throughout this translation. They criticise Mohanty's translation for "render[ing] prāmāṇya 'veridicality' as 'truth' infelicitously" (p.699) but do not say in what the infelicity consists. Perhaps the point is simply that to translate pramā as true will render [1] vacuous (although "x is veridical if and only if x is true" is hardly less so.) In any case, the reason [1] is controversial is that many would see pramā as implying more than merely being true; in particular, it would be seen as designating being known. Although every pramā is a cognition (jñāna) which is true, it is substantive to claim that the right-to-left conditional also holds. Tatacharya and Phillips refer to Gaṅgeśa's famous discussion (in the section entitled 'Characterizing veridical awareness' or pramā-lakṣaṇa-vāda), where Gaṅgeśa offers these analyses: ucyate | yatra yad asti tatra tasya anubhavaḥ pramā | tadvati tat-prakārakânubhavo vā | In the translation here supplied (pp. 236–7), We answer. (The right way to characterize veridical awareness is as follows:) veridical awareness is (D25) "awareness of something there where it is." Or, (D26) "awareness with Φ as predication about an object that is Φ." A little later, Gaṅgeśa provides a further formulation: yad-avacchedena yatra asti iti vā vivakṣitam | Or we should say (veridical cognition is D27) "(awareness of) something where it is according to the relevant specification." (p. 239). Phillips and Tatacharya comment that "Gaṅgeśa may be said to endorse a 'disquotational view' of truth … Nevertheless, a very abstract kind of correspondence view is embraced, too, as captured by his definitions." (p.241). It would not exactly be right to say that what Gaṅgeśa is doing here is to provide definitions of truth, for the concept being discussed is pramā, and it is a substantive issue whether that is the

same concept as truth. So rather one should say that what Gaṅgeśa seems to be endorsing here is a semantic rather than an epistemic account of pramā. This is why, they say, the commitment is to above.

The consequence of an endorsement of is that hitting the truth by mere luck is sufficient for achieving the status of pramā. If I guess correctly that you have five shells in your palm, then, according to, my ensuing cognition is pramā (the example is Śrīharṣa's). So it seems that one is forced either to take it that Gaṅgeśa is providing a stipulative and revisionary definition of the term pramā as true cognition rather than knowledge; or say that he is using the term with its usual epistemic overtones but providing an account of knowledge in which knowledge consists simply in true cognition, warranted or accidental; or else finally deny that his discussion above does indeed prove that he regards pramā as co-extensive with true cognition. In the recent literature, B. K. Matilal has defended the second of these possibilities (in his Perception: An Essay on Classical Indian Theories of Knowledge, Clarendon 1986, pp. 138–40), a view which leads him to say, perhaps unfortunately, that although the lucky guesser knows that there are five shells, they do not know that they know (unfortunate because the analysis will have to apply as much at the second-order as at the first, so the guesser only cognises truly that they cognise truly that there are five shells, and the presence or absence of this additional second-order true cognition in the mind of the cogniser does not seem to have any bearing upon the deviant epistemology of the first-order one.) On the other hand, Sukharanjan Saha has given evidence in favour of the third possibility, noticing that Gaṅgeśa elsewhere says that for a cognition to be pramā in inference is a matter not merely of content but of the existence or otherwise of a fallacy in the reasoning (see his Epistemology in Pracīna and Navya Nyāya, Kolkata 2003, p. 95). The second thesis from which Gaṅgeśa's alleged infallibilism issues is this: x is pramā if x is pramāṇa-generated. That is to say, if a cognition or awareness is generated by a pramāṇa, a 'knowledge source', then it is pramā. Phillips and Tatacharya state that the conditional does not hold the other way, because there can be 'accidentally veridical' cognitions, such as that which results from misperceiving dust for smoke and then inferring the presence of fire

which is, coincidentally, there (pp. 8, 218). Combining and, we arrive at the conclusion that no awareness which is the result of a pramāṇa can be false.

Now such a picture of the sources of knowledge seems to be at variance with a naturalist account, in which they are 'natural processes' and 'part of the universe's causal web.' As natural organisms, we are certainly equipped with mechanisms and processes that put us in cognitive contact with the world we inhabit, processes that serve pretty well in a variety of circumstances, but which are by no means infallible. Philosophers who search for infallible sources of knowledge are led away from ordinary perception, inference and language, and instead towards 'the natural light of reason' or 'clear and distinct ideas' or 'authorless Vedic revelation'. So it seems to me that one of two things must be true: either; Gaṅgeśa is not after all committed to an infallibilism about the pramāṇas; or else they are not, in fact, the ordinary natural processes they at first sight appear to be, but rather much more recherché elements in the causal web. One way to press the case for the first alternative would be to question his commitment to. The argument for this seems to be etymological: the term pramāṇa looks like the name for an instrumental cause (pramā-karaṇa). But as Phillips and Tatacharya themselves note, Gaṅgeśa's discussion of cognitive karaṇa is rather more elusive (pp. 24, 335). Again, the definitions of the individual pramāṇas do not seem to make them truth-entailing (see also below). Some Navya-Naiyāyikas make use of a theory of epistemic 'faults' (doṣa) and 'excellences' (guṇa), in particular to argue that it is production by a pramāṇa together with the appropriate excellence which is sufficient for true awareness; production by a pramāṇa without such an excellence and with a fault may or may not result in an awareness which is true. So then should be replaced with x is pramā if x is excellent-pramāṇa-generated.

The distinguished contemporary Naiyāyika Sibajiban Bhattacharyya is one recent commentator who has taken issue with [2] on such grounds (see his "Some remarks on the definition of knowledge," in Concepts of Knowledge East and West, Kolkata 2000, pp. 74–82). Another of equal distinction is Sukharanjan Saha (in his articles "Gaṅgeśa's reactions to some Gettier-like problems" and "A note on the definition of pramā",

reprinted in his 2003 cited above). Gaṅgeśa's own use of the theory of faults and excellences (e.g. pp. 141ff., 218, 314) is interpreted by Phillips and Tatacharya as revealing an internalist element in his thought (pp. 11–2), although they agree that the excellences and faults are "externally described." So they take the idea of an excellence or fault to be that of something that helps the cogniser recognise whether their awareness is true or false, rather than as a causal factor determining truth and falsity. I find it surprising, however, that an internalist interpretation of the excellences and faults is endorsed, given the overwhelmingly externalist nature of Gaṅgeśa's discussion (the relevant distinction is made within Nyāya in terms of whether it is the mere presence of the excellence itself or rather the cognition of the excellence that is the appropriate causal condition.) This in particular because Phillips, in his review of Saha, criticises him for his rejection of [2] on the grounds that Saha has adopted "a wrong-headed internalist reading of Nyāya" (see Phillips' review of Saha in the Journal of the Indian Academy of Philosophy).

In fact, the point of disagreement has nothing to do with internalist or externalist mis-readings; what Saha argues for is a reliabilist (and so externalist) interpretation of Gaṅgeśa – he says, "[W]e are of the opinion that pramāṇa is to be understood here only as a truth-conducive and not as a truth-ensuring factor" (p.61). Phillips reads Gaṅgeśa as an infallibilist externalist; Saha and Bhattacharyya read him as a fallibilist externalist. Perhaps it is only with reference to the remainder of Gaṅgeśa's text that this issue will be resolved (and I am delighted that Phillips and Tatacharya are presently completing a translation of and commentary on the challenging Inference chapter). A way to argue for the second alternative mentioned above would be to look in more detail at the analyses Gaṅgeśa seeks to provide for the pramāṇas. Consider what he says about pratyakṣa 'perception'. In order to make room for the idea of divine pratyakṣa, Gaṅgeśa distances himself from the Nyāyasūtra reference to production by a sense organ. Instead, he offers this: ucyate | pratyakṣasya sākṣātkāritvaṃ lakṣaṇam | We answer. (D5) "Cognitive immediacy" does define perception. (p. 330). And again, this: jñānâ-karaṇakaṃ jñānam iti tu vayam | But we (endorse the following definition of perception, D11): "cognition that does not have a cognition

as its chief instrumental cause (karaṇa, "trigger")." (pp. 334–5). It is clear that these statements make the notion of pratyakṣa refer in the first place to mental episodes whose manner of production is itself non-cognitive and immediate. What is not so clear is how it follows from either idea that perceptions are true and so, by, pramā. Gaṅgeśa's forerunner, Udayana, as Phillips and Tatacharya observe, included the clause 'being pramā' as an additional qualifier in his account (cf. pp. 335–6, referring to the Lakṣaṇamālā); but if the thesis is correct, this ought indeed be superfluous. But what now needs to be clarified is whether there is anything more than a contingent relationship between Gaṅgeśa's pratyakṣa-states and states of ordinary perceptual experience. It seems difficult to imagine how an inspection of the aetiology of subjects' ordinary perceptual experiences, across a range of subjects and in a wide variety of experimental conditions, would lead to the discover of a single type of causal factor sufficient for truth, that anything in the aetiology of ordinary perception could satisfy. I should stress that the 'inspection' I refer to is one envisaged as being carried out by a third-party – the issue is not the internalist one of the subjects' own access to a method for determining the contents and causes of their cognitions. On the other hand, a long list of token sufficient causes, one for each token of a true perception, could hardly be of theoretical interest. In other words, if there are infallible natural causal processes which generate only true awarenesses, and if these processes can be typed in any significant way and so made subject to causal laws and generalisations, then they must be very different in character from ordinary perception, inference and language. I doubt that there are any naturally infallible causal cognitive processes; but even if there are, they will not be discovered by the philosophical methods Gaṅgeśa employs in his work, nor will they have anything much to do with the sources of human knowledge he describes.

My second question has to do with the relationship between Gaṅgeśa's epistemology and his metaphysics. The former is, we are told, 'externalist' and 'defeasibilist'; that latter is 'realist'. The worry I have is easy to state: how can a 10 metaphysical realist, someone for whom what there is is not a matter in any way determined by or dependent upon what we know or can know, nevertheless maintain that there are exactly four

knowledge-sources (one for each chapter of the Tattvacintāmaṇi)? A scientific naturalist will be open to the possibility of discovering new ways of learning about the world, in response to new discoveries about what there is. It would seem that if one is committed in advance, and apparently as the result of a priori philosophical reasoning, to the number and scope of the sources of knowledge, then one must also think of the objects as knowledge as subject to epistemic constraints. Phillips and Tatacharya tell us that "a fundamental concern of Gaṅgeśa's throughout the Tattvacintāmaṇi is defense of Nyāya's thesis that veridical cognitions fall into groups as results of perception and other sources considered as types" (p.9); but also that "Gaṅgeśa is ontologically 'realist' in the sense of being committed to entities whose existence is independent of consciousness" (p.21). But if it is a priori that everything which exists is in principle knowable by way of one of a small number of already designated 'knowledgesources', then that seems to amount to an epistemic constraint on what there is. Philosophical projects that begin by describing privileged sources of knowledge and then declaring that what there is is what can be known by way of them have a familiar habit of collapsing into idealism. (I am told by Mark Siderits that Jitendra Mohanty has long been troubled by the sort of concern I am here raising about 'Nyāya realism'.) Reading the commentary to Gaṅgeśa's text in this book, it sometimes feels as if, in order to correct the perceived internalist 'mis-reading' of Gaṅgeśa, we are offered instead a portrait of him as an early modern cognitive scientist. But for all his causal idiom, isn't Gaṅgeśa is the inheritor of too much philosophy for that?

Another problem arises because of Gaṅgeśa's purported method of dealing with "accidentally veridical" cognitions, such as the inference that there is fire on the mountain based on mistaking dust for smoke, or the lucky guess. Why should we not say that the processes involved in such a case are indeed pramāṇa, since they do after all generate true awarenesses which are, by, pramā? Gaṅgeśa, on the Phillips-Tatacharya reading, wants to solve this problem not by offering a criterion, such as reliability, proper functioning, or virtuousness, for discriminating between putative knowledge-sources, but rather by designating or stipulating certain sources of true awareness as pramāṇa but not others.

That stipulation, however, is not grounded in a naturalistic investigation but rather seems to constitute for them a 'foundation' in Gaṅgeśa's epistemology. This is what permits Phillips and Tatacharya to assert that they would "render 'knowledge' by Nyāya's lights as a jñāna, 'cognition,' that is pramāṇa-ja, 'source-generated,' i.e., as a 'veridical cognition,' pramā, that is so in virtue of being pramāṇa-generated" (p.10). The whole epistemology is now made to rest upon the selection of designated pramāṇa, a selection restricted to a class narrower than mere causes of true awareness, but not grounded in considerations of reliability or natural functioning. On the Phillips-Tatacharya reading, it seems to be just basic, i.e. foundational. But what assurance can there be that just these stipulated sources are sufficient for knowledge of an independently determinate world? It will not do to take "infallibility" to be the relevant second-order criterion, for that would make into a vacous tautology, and would also license such ad hoc bogus sources as 'guessing truly'. The trouble with such gerrymandered sources as "guessing truly" or even "seeing veridically" is not merely, to repeat, that they fail to provide the cogniser with an applicable criterion, but rather that they have no coherently delineated natural causal realisation. It is not only an internalist who can have no truck with them; they are of no use to an externalist either.

I am deeply impressed by the work under review, a work so good that it makes possible the sort of detailed philosophical engagement I have just provisionally entered into. I hope that it will put the philosophy of Navya Nyāya firmly on the curriculum of Indian philosophical studies. Indeed, I would say that this work makes it possible to put Navya Nyāya into any philosophical curriculum. It helps us to see how distinctive and original is Gaṅgeśa's epistemology. I hope very much that the book is noticed by philosophers as well as by orientalists. I was once asked in an interview for a job in a philosophy department whether I really believed that there were Indian philosophers of the same stature as Kant and Wittgenstein. I answered "yes" and mentioned Gaṅgeśa. Needless to say, none of them had ever heard of him (and I didn't get the job). Now at last it will be possible literally to 'throw the book' at philosophers who want to see proof.

Outline of contents

Large sections of the treatise have not yet been translated into English or any other Indian languages. Broadly, Tattva-Cintāmaṇi is divided into four books dealing respectively with perception (pratyaksha), inference (anumāna), comparison (upamāna) and verbal testimony (sabda). According to nyaya doctrines, these are the four means for deriving valid knowledge. The following references provide sources where one can find detailed accounts of the contents of Tattva-Cintāmaṇi.

Commentaries on Tattva-Cintāmaṇi

Tattva-Cintāmaṇi has attracted many commentaries. Vardhamana Mahopadhyaya, a son of Gangesa, has himself written a commentary on Tattva-Cintāmaṇi. The History of Logic gives brief accounts of as many as 48 commentaries

9.3 NYAYA SYSTEM

The Nyâya system of thought is one of the Vedic systems of Indian philosophy. It was founded by Gautam (2nd century B.C.) or Aksapâda, who wrote the Nyâya-Sutras. Nyâya is also known as the Aksapâda system and Nyâya-vidyâ. Gautam is also well-known as the founder of ancient Indian logic. So Nyâya is also called Tarka-Sâstra (the science of reasoning) and Anviksiki (the science of critical study). The Sanskrit term 'Nyâya' is commonly understood as meaning 'argumentation' or 'reasoning'. It shows that the Nyâya system followed a predominantly intellectualistic and analytical method in its philosophical investigations. It is also known as Hetu-vidyâ or the science of causes or reasons. Vatsyayana (4th century A.D.) has written a commentary on the NyâyaSutras of Gautama. There are also commentaries upon commentaries written by other Nyâya philosophers. The Nyâya system is divided into two schools: 1) Prâcina Nyâya (ancient school), and 2) Navya Nyâya (modern school). Gangesh (10th century A.D.) is the founder of the modern school. He wrote Tattvacintâmani. Gautam's Nyâya deals with 16 philosophical topics. The first category is Pramâna (sources of knowledge). Nyâya accepts four ways of knowing: 1) perception (Pratyaksha Pramâna), 2) inference (Anumâna Pramâna), 3)

verbal testimony or authority (Sabda Pramâna), and 4) comparison (Upamana Pramâna). The Nyâya system is realistic. According to it, objects of knowledge exist independently of the knower, knowledge or mind, while ideas and feelings depend upon the mind. Like light, knowledge is the manifestation of objects; it reveals objects by removing darkness. Knowledge is broadly divided into presentative cognition (anubhav) and representative cognition (smriti). Valid presentative knowledge is Pramâ. If it is invalid, it is called Apramâ. Doubts and errors are forms of invalid knowledge. Valid knowledge is definite and unerring (Yathârtha) and non-reproductive experience of an object. Knowledge is true if it corresponds to facts; otherwise it is false. But the test of truth is successful practical activity. True knowledge leads to successful and fruitful activity (Pravritti Sâmarthya), while false knowledge ends in practical failure (Pravritti Visamvâda).

1) Perception (Pratyaksha Pramâna): It is immediate cognition. It is produced by sense-object contact. It is true and definite cognition of objects. So it is defined as a definite cognition produced by sense-object contact and is true or unerring. If one sees a table, this is a contact of one's senses with the table and one is sure that the object is a table. It is characterized by directness or immediacy. This is true of direct cognition of the feelings of pleasure and pain. Perception is differently classified. It may be ordinary (laukika) or extraordinary (alaukika). In the former, there is a sense-object contact. In the latter, there is no sense-object contact. Secondly, perception may be external (bâhya) or internal (mânasa). Thus there are six types of ordinary perception: visual, auditory, tactual, gustatory (taste), olfactory (smell) and the mental (mânasa).

Extraordinary perception is of three kinds:

1. Samanya-laksana: perception of classes. The sense by which we see an object also gives us knowledge of the class (universal) of that object.

2. Jnana-laksana: complication. E.g. ice looks cold, the stone looks hard. Modern psychologicsts like Wundt and Ward have accepted perception by complication.

3. Yogaja: intuitive perception of the Yogis. Perfect yogis intuitively perceive all objects and even past objects. According to another perspective, there are two modes of perception. They are:

1. Nirvikalpaka Pratyksya: indeterminate and indefinite. It is a kind of bare sensation. Something is sensed but what is it? If one fails to say anything definitely, it is indeterminate perception. Nothing is said about its character.

2. Savikalpaka Pratyksya: determinate perception. In this, the character of an object of perception is cognized. Indeterminate perception precedes determinate perception.

2) Inference (Anumâna Pramâna): The Sanskrit term Anumâna consists of two words, viz. 'Anu' means infer and 'Mâna' means Pramâna or knowledge. So it is knowledge or a means of knowledge which follows some other knowledge. Perception precedes inference. Inference is defined as a process of knowing something not by perception, but through the instrumentality or medium of a mark (Linga) that is invariable related to it. There are two types of inference:

1) Inference for oneself (Swârthaanumâna) and

2) Inference for others (Parârtha-anumâna). The former does not need any formal statement of inference. Inference for others involves stages or steps. According to Nyâya philosophers, it must be stated in the form of five propositions. It is called the five-membered syllogism (Panchavayavi Anumâna). It can be illustrated as follows:

1. There is fire on the hill (Pratijnâ).

2. Because there is smoke on the hill (Hetu or Linga).

3. Where there is smoke, there is fire. E.g. kitchen (Vyapti, universal proposition and instance).

4. There is the same type of smoke on the hill (Upanaya, or application).

5. There is fire on the hill (Nigamana, or conclusion). Fire is not seen and smoke is perceived. It is the reason for the assertion of the first proposition. Universal proposition indicates the connection between the reason (Hetu) and the asserted fact (Pratijna). It is supported by known instances and then the conclusion is stated. While the syllogism in Western logic or Aristotelian logic is deductive, the Nyâya syllogism is inductive-deductive. Nyâya philosophers have also discovered the fallacies which one may commit in making inferences. Inference was considered as a source of knowledge. The subject matter of logic was thought and not the mere linguistic forms in which it is expressed. In a sense it combines the two sources of knowledge, viz. experience and reason. At this stage, we need not discuss the classification of inference and fallacies of inference.

3) Verbal Testimony (Sabda Pramâna): It is testimony of a trustworthy person (Âptavacana), i.e. one who knows the truth and communicates it correctly. The communicator or the speaker must be both competent and honest. According to Nyâya, the Vedas are the valid source of suprasensible or extra-empirical knowledge because their author is the all-knowing God. Nyâya philosophers try to justify their belief in God on rational grounds. Testimony may be Vaidika (Scriptural) or Laukika (ordinary person) but the Vaidika author is infallible, while secular authorities may be true or false.

4) Comparison (Upamana Pramâna): Its scope is narrow but practically it is useful. It is generally about the connection between a name and a thing or being signified by that name. One has not yet seen a gavaya (wild cow). One is told that it is an animal like a cow with which one is acquainted. One then goes to the jungle and sees the gavaya and knows that it looks like a cow but is not a cow. Therefore, it must be a gavaya. The above considerations regarding Nyâya views on sources of knowledge show that this philosophical system accepts both reason and

experiences as sources of knowledge. The term experience is used in a wider sense. It also accepts the extraordinary experiences of the yogis and sages.

9.4 CHARVAK PHILOSOPHY

Cârvâk philosophy is also known as Lokâyatika. Historians of Indian philosophy assert that no systematic work on the Cârvâk system of philosophy is available. Works written by philosophers of different systems, Vedic and non-Vedic, contain attempts to refute Cârvâk views. The Cârvâk system stands for materialism and consequent hedonism. There are two etymologies of the term Cârvâk. 'Charu' means to eat or to chew. Thus it preaches the doctrine of "eat, drink and be merry." According to the second etymology, 'charu' means nice, sweet and 'vâk' means word, speech. So Cârvâk is one whose words are pleasant and nice. Some say that Brhaspati is the founder of materialism in Indian philosophical tradition. We need not go into the details of the story of Cârvâk philosophy. In this unit, we are mainly concerned with the Cârvâk views on the sources of knowledge. Cârvâk philosophy stands for empiricism in its theory of knowledge. Perception is the only dependable source of human knowledge. It is very critical about the other sources of knowledge. Both reason (inference) and verbal testimony fail to give certain knowledge according to Cârvâk. Inference is an uncertain leap from the known or the observed to the unknown or the unobserved. The smoke is perceived on the hill. From this perceived smoke, we take a leap to the unperceived fire. Logicians point out that inference is based on a universal relation between Hetu (reason) and the Sadhya (fire). But it is not beyond doubt. Universal relation of invariable concomitance cannot be established conclusively. We do not have knowledge of all the cases of fire and presence of fire. We see some cases of smoke and presence of fire. How can we pass from some cases to all cases? Even causal relations cannot be established by means of perception. Validity of inference cannot be based on some other inference. Even validity of verbal testimony depends upon inference. But since inference itself is not a source of valid knowledge, how can we accept verbal testimony as a

source of valid knowledge? So testimony supported by inference or reasoning is as uncertain as inference.

In its most generic sense, "Indian Materialism" refers to the school of thought within Indian philosophy that rejects supernaturalism. It is regarded as the most radical of the Indian philosophical systems. It rejects the existence of other worldly entities such an immaterial soul or god and the after-life. Its primary philosophical import comes by way of a scientific and naturalistic approach to metaphysics. Thus, it rejects ethical systems that are grounded in supernaturalistic cosmologies. The good, for the Indian materialist, is strictly associated with pleasure and the only ethical obligation forwarded by the system is the maximization of one's own pleasure.

The terms Lokāyata and Cārvāka have historically been used to denote the philosophical school of Indian Materialism. Literally, "Lokāyata" means philosophy of the people. The term was first used by the ancient Buddhists until around 500 B.C.E. to refer to both a common tribal philosophical view and a sort of this-worldly philosophy or nature lore. The term has evolved to signify a school of thought that has been scorned by religious leaders in India and remains on the periphery of Indian philosophical thought. After 500 B.C.E., the term acquired a more derogatory connotation and became synonymous with sophistry. It was not until between the 6th and 8th century C.E. that the term "Lokāyata" began to signify Materialist thought. Indian Materialism has also been named Cārvāka after one of the two founders of the school. Cārvāka and Ajita Kesakambalin are said to have established Indian Materialism as a formal philosophical system, but some still hold that Bṛhaspati was its original founder. Bṛhaspati allegedly authored the classic work on Indian Materialism, the Bṛhaspati Sūtra. There are some conflicting accounts of Bṛhaspati's life, but, at the least, he is regarded as the mythical authority on Indian Materialism and at most the actual author of the since-perished Bṛhaspati Sūtra. Indian Materialism has for this reason also been named "Bṛhaspatya."

9.5 WHAT'S THE DIFFERENCE BETWEEN "EXTENSIVELY" AND "INTENSIVELY"?

What's the difference between studying a subject extensively and studying it intensively, between doing extensive research and intensive research? It seems like a simple enough question, one that could easily be answered by consulting a dictionary. I consulted four: Merriam-Webster Unabridged (3rd ed), The New Shorter Oxford English Dictionary, Webster's New World College Dictionary (4th ed), and The American Heritage Dictionary (5th ed) .* Here's what I found:

Intensive = intense; highly concentrated; thorough; exhaustive

Extensive = large in extent, range, or amount; far-reaching; comprehensive; wide

You can see that in some senses, the two words seem like antonyms (compare "highly concentrated" and "wide"), whereas in other senses, they are nearly synonymous (compare "exhaustive" and "comprehensive"). Perhaps not surprisingly then, I find that scientists who are not native English speakers sometimes have trouble with these two words: specifically, they use "intensively" where I would expect "extensively." (I can't say that I've ever seen the opposite, and it's worth noting that a search of Google Scholar reveals that "extensively" is used more than three times as often as "intensively.") I wouldn't go so far as to say that this constitutes an error, but why not preserve a useful distinction between the two words?

I suggest using "intensively" when referring to in-depth research involving intense effort narrowly focused on a specific issue and perhaps conducted by a small group of researchers. In contrast, use "extensively" when describing comprehensive research covering many aspects of an issue and perhaps conducted over a relatively long period of time by numerous research groups.

Here are some examples of what I consider to be idiomatic uses of these two adverbs:

At an intensively studied site within the region, >90% of the dominant overstory tree species died after 15 months of depleted soil water content.

The figure illustrates a typical spine synapse that makes intimate contact with an apical dendrite of a pyramidal cell. The ultrastructure of such synapses has been intensively studied in our laboratory.

Plasma membrane transporters have been intensively studied at the mechanistic, biochemical, and molecular levels.

The asymmetric aldol condensation has been the subject of intensive study in our laboratory.

The asymmetric aldol condensation is among the most powerful reactions in synthetic organic chemistry and has been extensively studied over the past 15 years.

As surrogates for the central nervous system, peripheral samples such as blood, saliva, and skin have been extensively used in psychiatric research for decades.

Because of its importance in cholesterol biosynthesis, HMG-CoA reductase has been extensively studied.

Undoubtedly, some subjects have been studied both intensively and extensively. Can both words be used in the same sentence? I found very few examples on Google Scholar. Here's one:

One-dimensional ZnO nanostructures have been studied intensively and extensively over the last decade not only for their remarkable chemical and physical properties, but also for their current and future diverse technological applications.

I'm not sure how I feel about that sentence. What do you think about it?

Check Your Progress 1

Note: Use the space provided for your answer

1. Discuss the Intensive study of Gangesa's tattvacintāmani.

……

……

……

2. What is Nyaya System?

……

……

……

3. Discuss the Charvak Philosophy.

……

……

……

4. What's the difference between "extensively" and "intensively"?

……

……

……

9.6 LET US SUM UP

The Nyâya philosophy accepts four sources of knowledge—1) perception, 2) inference, 3) verbal testimony or authority, and 4) comparison. Gautam is the founder of this system and also of ancient Indian logic. His concept of sources of knowledge is broad-based. It accepts reason and experience as important sources of knowledge. Truth is defined in terms of correspondence with facts and the test of truth is pragmatic, i.e. fruitful activity. The Cârvâk philosophy stands for Indian materialism. It accepts perception as the only source of knowledge. It is a form of gross empiricism. It rejects both inference and verbal testimony as sources of human knowledge. It is also a form of Indian hedonism.

9.7 KEY WORDS

Inference: Inferences are steps in reasoning, moving from premises to logical consequences; etymologically, the word infer means to "carry forward". Inference is theoretically traditionally divided into deduction and induction, a distinction that in Europe dates at least to Aristotle.

Syllogism: A syllogism is a kind of logical argument that applies deductive reasoning to arrive at a conclusion based on two or more propositions that are asserted or assumed to be true. In a form, defined by Aristotle, from the combination of a general statement and a specific statement, a conclusion is deduced.

9.8 QUESTIONS FOR REVIEW

1. Elaborate the Nyâya concept of inference.

2. State the Nyâya view of syllogism.

3. Discuss the Carvaka's critique of inference.

9.9 SUGGESTED READINGS AND REFERENCES

- Satis Chandra Vidyabhusana (1920). A History of Indian Logic: Ancient, Mediaeval and Modern Schools. Delhi: Motilal Banarsidas. p. 405. ISBN 9788120805651.
- Satis Chandra Vidyabhusana (1920). A History of Indian Logic: Ancient, Mediaeval and Modern Schools. Delhi: Motilal Banarsidas. p. 7. ISBN 9788120805651.
- Satis Chandra Vidyabhusana (1920). A History of Indian Logic: Ancient, Medieval and Modern Schools. Delhi: Motilal Banarsidas. p. 454. ISBN 9788120805651.
- Karl H. Potter, Sibajiban Bhattacharyya (1993). Volume 6 of Encyclopedia of Indian philosophies: Indian philosophical analysis Nyaya-Vaiśesika from Gangeśa to Raghunatha Śiromani. Motilal Banarsidass. p. 85. ISBN 9788120803077.
- Satis Chandra Vidyabhusana. A History of Indian Logic. Motilal Banarsidass. pp. 454–487.
- Satis Chandra Vidyabhusana. A History of Indian Logic. Motilal Banarsidass. pp. 405–453.
- Karl H. Potter, Sibajiban Bhattacharyya (1993). Volume 6 of Encyclopedia of Indian philosophies: Indian philosophical

analysis Nyaya-Vaiśesika from Gangeśa to Raghunatha Śiromani. Motilal Banarsidass. pp. 85–311. ISBN 9788120808942.

9.10 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 9.2
2. See Section 9.3
3. See Section 9.4
4. See Section 9.5

UNIT 10: DIDHITI O RAGHUNATHA

STRUCTURE

10.0 OBJECTIVES

After this unit, we can able to know:

- Didhiti O Raghunatha
- Pre-systematic conceptions of language in Vedic texts
- Conception of Language among Sanskrit grammarians
- General philosophical approaches to the status of Vedic scriptures
- Language and Meaning
- Different views regarding sentence-meaning
- Some important conceptions
- Why the differences?

10.1 INTRODUCTION

Speculations about the nature and function of language in India can be traced to its earliest period. These speculations are multi-faceted in that one detects many different strands of thought regarding language. Some of these speculations are about what one may call the principle of language, but others are about specific languages or specific uses of these

languages. One sees speculations regarding the creation of language as well as the role of language in the creation of the universe. Language appears in relation to gods as well as humans, and occupies the entire width of a spectrum from being a divinity herself to being a means used by gods to create and control the world, and ultimately to being a means in the hands of the human beings to achieve their own religious as well as mundane purposes. Gradually, a whole range of questions are raised about all these various aspects of language in the evolving religious and philosophical traditions in India, traditions which shared some common conceptions, but thrived in full-blooded disagreements on major issues. Such disagreements relate to the ontological nature of language, its communicative role, the nature of meaning, and more specifically the nature of word-meaning and sentence-meaning. On the other hand, certain manifestations of language, whether in the form of specific languages like Sanskrit or particular scriptural texts like the Vedas, became topics of contestation between various philosophical and religious traditions. Finally, one must mention the epistemic role and value of language, its ability or inability to provide veridical knowledge about the world. In what follows, I intend to provide a brief account of these diverse developments in ancient, classical and medieval India.

10.2 DIDHITI O RAGHUNATHA

Nyana is the most rational and logical of all the classical Indian philosophical systems. In the study of Nyana philosophy, Karikavali with its commentary Muktavali, both by Visvanatha Nyayapancanana, with the commentaries Dinakari and Ramarudri, have been of decisive significance for the last few centuries as advanced introductions to this subject. The present work concentrates on inference (anumana) in Karikavali, Muktavali and Dinakari, carefully divided into significant units according to the subject, and translates and interprets them. Its commentary makes use of the primary interpretation in Sanskrit contained especially in the Ramarudri and Subodhini. The book begins with the Sanskrit texts of Karikavali and Muktavali; followed by English translation of these texts. Next is given the Sanskrit text of Dinakari which comments on the first two texts, followed by its English

translation. Lastly, the book contains a commentary on all the texts included.

Most widely held works about Raghunātha Śiromaṇi

Indian philosophical analysis : Nyāya-Vaiśeṣika from Gaṅgeśa to Raghunātha Śiromaṇi(Book)

Invariable concomitance in Navya-Nyāya by Toshihiro Wada(Book)

The Padārthatattvanirūpaṇam of Raghunātha Śiromaṇi; a demonstration of the true nature of the things to which words refer by Raghunātha Śiromaṇi(Book)

Siddhānta-lakṣaṇam by Gaṅgeśa(Book)

The Navya-nyāya doctrine of negation; the semantics and ontology of negative statements in Navya-nyāya philosophy by Bimal Krishna Matilal(Book)

10.3 RAGHUNĀTHA ŚIROMAṆI AND THE ORIGINS OF MODERNITY IN INDIA

Raghunātha Śiromaṇi (c.1460–c.1540)2 is the first modern philosopher, his ideas single-handedly responsible for the emergence of a new form of Navya-Nyāya, the ‘new reason’, in the sixteenth and seventeenth centuries. He was born and lived in the remarkable town of Navadvīpa, a town roughly a hundred kilometres north of modern day Kolkata. Many modern Indians continue to this day to celebrate Navadvīpa as the birthplace of the religious reformer Caitanya, who was Raghunātha’s peer and, at least according to legend, the student of a common teacher. In the fifteenth, sixteenth, and seventeenth centuries, the town of Navadvīpa, which is also known by its latinized name Nadia or Nuddea, was one of the great sites of scholarship in South Asia. Students from all over the subcontinent, indeed from Nepal and possibly even Tibet, were attracted to a strict programme of studies in the ‘new reason’, a vigorous intellectual community, and the eventual prospect of prestigious certification by title. The programme of studies was provided in ṭols run by a series of celebrated paṇḍits, whose more important works were frequently transcribed and swiftly distributed throughout India.

They themselves as “new,” though that is indeed a striking feature of the period. By the end of the seventeenth century we find in a work by Mahādeva a daunting array of terms denoting the new: New (navya) Gaṅgeśa et al. Newer (navyatara) Later Mithilā thinkers Modern (navīna) Raghunātha Very modern (atinavīna) Post-Raghunātha thinkers Contemporary (ādhunika) Contemporaries of Mahādeva.3 Yet others before them had done the same, and the question is in what this self-attributed newness consists and what the self-affirmation means. Was it only a newness in the ways that the ideas of the ancient authorities are described, a newness of style but not of substance? In asking this question, I have in mind Sheldon Pollock’s well-known assessment of the new intellectuals of the seventeenth century, that their work displays a “paradoxical combination of something very new in style subserving something very old in substance” (2001a: 407). That was certainly how a pre-modern, Jayanta, at the end of the first millennium, conceived of his own originality: How can we discover a new truth? So one should consider our novelty only in the rephrasing of words.4 This characteristically pre-modern attitude of deference to the past changes fundamentally in the work of Raghunātha Śiromaṇi. Raghunātha belongs to a tradition of philosophical speculation known as Nyāya, a term more or less synonymous with the appeal to reason and evidence-based critical inquiry — rather than scriptural exegesis — as the proper method of philosophy. Raghunātha concludes his most innovative work, the Inquiry into the True Nature of Things, with a call to philosophers to think for themselves about the arguments: The demonstration of these matters which I have carefully explained is contrary to the conclusions reached by all the other disciplines. These matters spoken of should not be cast aside without reflection just because they are contrary to accepted opinion; scholars should consider them carefully. Bowing to those who know the truth concerning matters of all the sciences, bowing to people like you [the reader], I pray you consider my sayings with sympathy. This method, though less honoured, has been employed by wise men of the past; namely that one ask other people of learning to consider one’s own words (Inquiry into the True Nature of Things 1915: 79,1–80,3; trans. Potter 1957: 89–90). The new attitude was summarised at the time

by Abū'l Faẓl, in a work — the Āīn-i-Akbarī — which relates the intellectual climate during the reign of the Mughal emperor Akbar. Abū'l Faẓl describes the philosophers as those who "look upon testimony as something filled with the dust of suspicion and handle nothing but proof".5 In the writings of those philosophers who follow Raghunātha from about the middle of the sixteenth century until the end of the seventeenth there is a fundamental metamorphosis in epistemology, metaphysics, semantics, and philosophical methodology. The works of these philosophers — some of whom lived in Raghunātha's home-town of Navadvīpa in Bengal, others in the newly invigorated city of Vārāṇasī — are full of phrases that are indicative of a new attitude, phrases like "this should be considered further (iti dhyeyam)," "this needs to be reflected on (iti cintyam)," "this is the right general direction to go in (iti dik)." Openness to inquiry into the problems themselves, a turn towards the facts, is what drives the new work, not merely a new exegesis of the ancient texts, along with a sense that they are engaged in a radical and on-going project.

10.4 LIFE AND WORK

It is indeed probable that Vāsudeva received Raghunātha into his school, for children joined typically as soon as they could read, and there is an anecdote about Vāsudeva explaining the phonetics of the alphabet to a demandingly inquisitive Raghunātha (Ingalls 1951: 12). Raghunātha records Vāsudeva's view in one of his works.6 Raghunātha may well have studied for some time in Mithilā, possibly under Jayadeva, with whom he disagreed strongly, before returning to Navadvīpa. Whether or not he was actually a student in Mithilā, he supposedly defeated Jayadeva in a famous debate, the date of which lies between 1480 and 1485.7 Raghunātha displays a greater tolerance for another Mithilā scholar, Yajñapati. As well as his commentary on Gaṅgeśa's Gemstone [Fulfilling One's Wish] for Truth (Tattvacintāmaṇi), Raghunātha prepared brief but penetrating comments on works by Udayana, Vardhamāna and Vallabha, all called Light-Ray (Dīdhiti) on the text in question. Raghunātha would write three short treatises,8 the Treatise on Negation (Nañ-vāda), the Treatise on Finite Verbal Forms (Ākhyāta-

vāda), and the Inquiry into the True Nature of Things (Padārtha-tattva-nirūpaṇa).9 His impact is due to the originality of the ideas he puts out in the course of his commentaries, to the new approach to the study of language that his two works in semantics herald, and to the daring metaphysical ideas of the Inquiry into the True Nature of Things. More than that, it is due to the spirit his writings embody, with their emphasis on independent thinking. Raghunātha certainly thought of his conclusions as original to him, urging potential critics to consider well his arguments before condemning them. Gaṅgeśa had written only on epistemology. Indeed, he had argued that all philosophy "rests upon" (adhīna) the study of the ways of gaining knowledge. That is why he organised his only work into four chapters, one for each of the four ways of gaining knowledge acknowledged in classical Nyāya. Later thinkers would follow this organisational principle, although they were not afraid to abandon a discussion of the third method of gaining knowledge, analogy (upamāna) as a principle of learning the meaning of words, when their new work in the philosophy of language made it superfluous. Gaṅgeśa's exclusive attention to epistemology nevertheless left a vacuum in the study of metaphysics, and made space for creative thinkers to embrace the spirit of the new philosophy and turn their attention to a reconceptualisation of ancient metaphysics. The last important pre-Gaṅgeśa metaphysical works to have been written were Udayana's Row of Lightbeams (Kiraṇāvalī) and Vallabha's Līlāvatī. Gaṅgeśa's son, Vardhamāna, wrote commentaries on a number of these works, and it was that corpus of metaphysical texts which formed the object of Raghunātha's attention. To describe Raghunātha's notes on these works as "commentaries" is potentially misleading, however. What they are, very often, are very provocative and stimulating thoughts about what he is reading. One might think, by way of analogy, of the notes Wittengstein used to make on whatever he was reading. Sometimes Raghunātha's notes are about issues which the text has, in his opinion, failed to mention at all. Raghunātha, we might say, is not explaining the text but thinking with it. It is this feature of his "commentaries" which made them profoundly interesting to the philosophers who came after him, and who in many cases, no longer commented about the original

texts but only about Raghunātha's notes. To give just one example, when Gaṅgeśa says, at the beginning of the Gemstone [Fulfilling One's Wish] for Truth, that the whole world ("jagat") is steeped in suffering, and that philosophy is a method of alleviation, Raghunātha's note refers to the scope of "the world", which he affirms includes everyone, women and untouchables included. Matilal says that the view that "world" refers to all sufferers is "clearly ascribable to Raghunātha … according to Raghunātha's cryptic statement, Gaṅgeśa was saying that 'philosophy' or ānvīkṣikī is open to all, not restrictive to the male members of the three varṇas." (Matilal 2002: 367).10 As if in acknowledgement of the restrictions imposed by the inherited framework, Raghunātha wrote a separate treatise in metaphysics in which a complete rethinking of the traditional system is undertaken, the Inquiry into the True Nature of Things. The treatise does not dismiss the ancient metaphysics, or offer some wholly different metaphysics in its place, but rather thoroughly reworks it. Raghu- nātha wants to make the old system consistent with a new metaphysical principle, and is not afraid to dismiss those parts of the ancient theory which seem, from the new perspective, to be anomalous. This text therefore embodies a fundamentally new attitude towards the ancient text. The new attitude is that there is a good underlying metaphysical insight, but that it has not been articulated with clarity and consistency in the ancient texts or their pre-modern interpreters, who include much that is irrelevant and leave out much of what is important. Raghunātha's leading idea is that the defence of realism in metaphysics requires one to be a non-reductivist, and his reform of the ancient theory is such as to remove from it intermingled reductivist elements.

Raghunātha begins the work in a highly provocative manner: Among entities, space and time are nothing but god, since there is no proof [that they are distinct from god]. For wherever particular effects arise, these arise simply from god by his being combined with particular causes (1915: 1,3–3,1; trans. Potter 1957: 23). This identification of space and time with god, or of god with space and time, is startling enough, the second sentence meaning that god as delimited by a specific time and place is the cause of any given happening, i.e. that effects are spatio-temporally located occur- rences. Yet it is only further into the work that

the truly challenging dimension of Raghunātha's position is made clear: The universal selfhood, insofar as it is the limitor of the inherencecausality of pleasure etc., is not in god (1915: 44,2–45,1; trans. Potter 1957: 55). A self is that which bundles psychological properties, and so that in virtue of which a pleasure or pain felt by one person does not belong to someone else. The individual ownership of psychological properties is the reason we need a plurality of individual selves, falling under a common kind, rather than an amorphous consciousness, which Advaita Vedānta thinkers identify both with 'every' self (ātman) and with brahman. The 'inherence cause' of a property instantiation is the substance in which the property inheres. Raghunātha says, however, that such considerations do not apply to god, who does not feel pleasure or pain, for example, and does not need discriminating from other individuals. In saying this, he is breaking with the ancients, who had argued that god must be a self because no other type of entity has psychological properties, and god has the property of thinking (buddhi) (Vātsyāyana 1997: 228, 6). This argument from elimination was not entirely free from difficulty, even for the ancients, because they took it that thinking, like all other psychological attributes, requires embodiment. One solution, albeit an ad hoc one, was to say that god's psychological attributes are different in kind from human mental properties, and in particular, that its 'thinking' is eternal (Uddyotakara 1997: 432–433). One can appreciate the force of Raghunātha's new claim if one thinks that, rather than persist with the argument from elimination, one instead admits that god does not belong to the same kind of thing as human selves. As we will see when we examine his realism in detail, this is in fact a standard move for him, one which I will argue is a form of non-reductivism. It is preferable to admit a new type of entity into one's ontology than to get into all of the ancient contortions that come with attempts to fit round pegs into square holes. Raghunātha begins several of his treatises, including the Inquiry into the True Nature of Things, with a homage to the supreme self, which is of the nature of bliss and consciousness (akhaṇḍānandabodhāya pūrṇāya paramātmane). Superficially that sounds very much like Advaita Vedānta, but the crucial difference is that Raghunātha does not endorse the Vedāntic reduction of

human selves to delimitations or reflections of the supreme one.12 The whole topic of the individuation of selves, and the question of whether selfhood was a natural kind also embracing god, developed as an important topic for some 'new reason' philosophers. Not all found themselves able to agree with Raghunātha, but all recognised that they needed to think afresh about the fundamental issues involved, rather than continue simply to follow the ancient tradition. The spirit in which Raghunātha writes the Inquiry into the True Nature of Things is clearly seen from this passage, in which Raghunātha wonders about how fictional and historical names get their reference: How does it come about that, from (hearing) the word "Daśaratha," people now, who never saw Daśaratha [the father of the legendary king Rāma] come to know of him? Likewise how, from the words [for fictional entities like] "hobgoblin", do others come to know of them? I leave this for attentive scholars to meditate upon. I shall not expand further here. (1915: 60,4–61,4; trans. Potter 1957: 76). In saying that he will leave the matter for others to think about, the clear message is that it is the philosopher's responsiblity to think about the issues and problems, in the course of a search for the truth, rather than merely revert to exegesis of texts or ancient tradition. Raghunātha puts a new set of intellectual values at the heart of philosophy, including lack of deference, independent mindedness, and above all a sort of playfulness which is absent in the scholastic tomes. The modern nature of Raghunātha's question about reference is indicative of another major source of his influence. His composition of individual treatises examining the semantic role of two types of linguistic expression reveals a new approach to the study of language. Previously, Nyāya philosophers treated language in the context of a study of the sources of knowledge. So the question about language was: how does it function so as to enable the possibility of testimony (śābda-pramāṇa). Language is one of the four ways of gaining knowledge, and it is in that context that Gaṅgeśa devotes a chapter to language in the Gemstone [Fulfilling One's Wish] for Truth. It is significant then that Raghunātha feels the need to write these two treatises, which again fill in lacunae in the original. I think that Raghunātha perceives in Gaṅgeśa something that the Mithilā scholastics

did not, namely that language can be used as a vehicle for philosophical investigation, separated from its epistemo- logical moorings. In this new pursuit of a new philosophical method, based on a careful attention to logical form and the way words work, many later Nyāya thinkers follow Raghunātha's lead, and indeed this became one of the leading features of seventeenth century philosophy in Navadvīpa and Vārāṇasī. What underpins the new attention to language is the idea that philosophical linguistics can become a new method in philosophy. To illustrate the new method, let me draw an example from Raghunātha's study of negative constructions, his Treatise on Negation. He carefully distinguishes various sorts of logical work that the negative particle might perform, before turning to what some of the Mīmāṃsā ritualists say about prohibitions. They think that the sentences "One should perform φ" and "One should not perform φ" are contradictory, and in cases where the ritual texts mention both, the performer of the ritual has the "option" (vikalpa) to suspend the prescriptive force of one or the other. Raghunātha points out that "One should perform φ" means "Performing φ is the means to one's desired outcome". So then "One should not perform φ" can mean "Performing φ is not the means to one's desired outcome", but it can also mean "Performing something not-φ is the means to one's desired outcome". There is now no contradiction and so no need for the strange doctrine of optionally suspended injunctive force. The issue for philosophical linguistics hinges on whether a negative particle can attach to the verbal root rather than only to its suffix, and that is why this discipline can become part of a new method in philosophy. By the end of the seventeenth century the method had gained considerably in sophistication. A second example will illustrate the development. In his Essence of Reason, Mādhavadeva considers afresh the problem we mentioned above, that if a self is, for some given pleasure or pain, the place where it inheres, then god is not a self. Mādhavadeva moves the problem up to the level of language, and asks us to think about what it means to say "I am in pain" or "I am in a state of pleasure." The word "I" gets its meaning fixed as referring to something which has the property of being a self. Once we have fixed the referent of "I", we attribute it with the quality of pleasure or pain. So while it is

certainly true that selfhood is what delimits the substratum of states of pleasure and pain, that remains the case even when the word "I" refers to god. It doesn't matter that god doesn't feel pain or enjoy pleasure. All that means is that, if uttered by god, the sentence "I am in pain" would be false.13 In the presentation of this argument, Mādhavadeva uses various elements of a technical apparatus. Where I said that the word "I" gets its meaning fixed as referring to something which has the property of being a self, for example, he says that referenthood as conditioned by the word "I" is delimited by selfhood. Selfhood is also, in the apparatus, what delimits substratum-causehood-to-pleasure. The point of the technical apparatus is that we can now see clearly that there are two distinct logical roles in play, which happen to be performed here by one and the same entity. It is the early modern use of these highly artificial constructions which baffles and sometimes misleads. It might look like it is just the same old argument, the one we have already seen in Vātsyāyana, but reformulated in an elaborately adorned style. I hope that I have been able to show, however, that this is far from being the case. To a first approximation, the sentences of the early modern technical apparatus are equivalent to statements in a quantified language with dyadic relations including identity. The two sentences about the self are, to this approximation, equivalent to the claims that whatever is a causal substratum of pleasure is a self, and that anything referable to with "I" is a self. These two sufficient conditions, it is now easy to see, are compatible with the further claim that god is a self which is not a substratum of pleasure. This method, then, serves the same function — albeit in a very different way — as the introduction of new methods into philosophy by early modern thinkers in Europe.

10.5 RAGHUNĀTHA'S CHALLENGE IN METAPHYSICS

A seven category ontology came to be established as standard only in the work of Śivāditya (c. 1100 CE), incorporating the six categories of "being" (bhāva) affirmed by Praśastapāda along with a metaphysically distinct category of "non-being" (abhāva). This establishment can be seen as the stabilization of various revisionary currents, some pressing in

the direction of expansion, others for contraction. The only work of classical Vaiśeṣika to have entered the Chinese tripiṭaka is a text arguing for ten categories, the standard six together with non-being, power, impotence, and 'particular universal' (sāmānya-viśeṣa).14 Bhāsarvajña (c. 860–920 CE), on the other hand, argues for an amalgamation of the categories of motion and quality, as well as for systematization within the category of quality. Though certainly indicative of the existence of dynamic internal criticism, neither of these works achieved a significant position within the mainstream of discussion. The work which did was Raghunātha's Inquiry into the True Nature of Things. In this work Raghunātha affirms eight new categories: legal ownership (svatva), intentionality (viṣayatā), number (saṃkhyā), the qualifying relation pertaining to absence (vaiśiṣṭya), causal power (śakti), being-a-cause (kāraṇatva), being-an-effect (kāryatva), and temporal moments (kṣaṇa). At the same time, he dismisses the ancient category of distinguisher and takes motion into a sort of quality. The list is open, and elsewhere other new categories, such as locushood (ādhāratā), are entertained. Raghunātha's decision to abandon the idea that there is a fixed list of categories can be read as a robust commitment to the idea that the phenomenon under study itself determines what types of thing there are, not the authority of any canonical text. The new categories, most of which are like number in being relational, fall into three broad groups. One group has to do with the nature of time and causation, Raghunātha rejecting the old view that causation is reducible to a relationship of invariable temporal succession between things of the same type. 15 A second group includes new relations invoked by the philosophical study of quantity and negation, specifically the relations which sustain the logics of absence and enumeration. Finally, there are the relations of mental content and of legal possession, which Raghunātha again claims have their own categorial standing. From a modern perspective, it is striking that the new categories are all related to normative properties or laws of nature. Raghunātha, we would now say, has insisted that there are several distinct types of normative relation, none of which is reducible to any of the others or to any non-normative type, and also that the laws of nature do not admit of Humean reduction. The normative

relations he acknowledges are those belonging to logical form, mental representation and legal rights. He does not, however, speak here about moral or aesthetic norms. Raghunātha's fundamental criticism of the orthodoxy might therefore be said to consist in the thought that Praśastapāda's view of the world is myopic and flat, seeing only a mechanistic space of objects, compounded from atoms, bearing qualities of various sorts, and moving about in various ways. The inclusion into this picture of human inquirers has them fall under an identical descriptive model, located in space and time, displaying a range of qualities, many of which overlap with those of ordinary physical objects. That might seem like an attractively naturalistic picture, and later 'new reason' thinkers are keen to preserve the naturalism, but I have already given reasons why the very flatness of the model causes serious fault-lines within it. What it fails to see, according to Raghunātha, are the irreducibly normative structures introduced by the presence of thinking beings who represent and reason about the world they inhabit, and have duties and rights with respect to each other.16 To say that we therefore need new categories is just a way of claiming that the old model can not accommodate this facts; and I have suggested that the point of doing to is to throw down a challenge to his contemporaries to show how, if at all, a naturalistic reduction is to be achieved. The force of Raghunātha's challenge is to call for an account of just how to achieve an acknowledgement of the reality of features of human life which Praśastapāda's model seems ill-equipped to accommodate without abandoning naturalism as that model conceives of it (a unified explanation of all objects of inquiry including inquirers).

10.6 OLD CATEGORIES ELIMINATED, NEW CATEGORIES AFFIRMED

I have observed that Raghunātha rejects the ancient category of differentiator. What, though, does this rejection consist in? His view, I think, is that differentiators are bogus pseudo-entities which a new metaphysics should discard. Raghunātha says: And further, differentiator is not another category, because there is no proof. For [atoms and selves] the eternal substances discriminate by themselves, without a

discriminating property – just as do the differentiators, according to others. "Yogis see distinct differentiators" [it is said]. Well, then let them be asked on oath whether they see distinct differentiators or not. (1915: 30,3–32,1). It is clear that he rejects the claim of the old thinkers, that what distinguishes one atom (or self) from another is its possession of a unique discriminating property, conceived of as a special sort of property which the atom has in addition to all its other properties. Raghunātha notices that the postulation of differentiators is superfluous, and potentially regressive. For even those thinkers, the old Vaiśeṣika metaphysicians, who claim that they exist do not also claim that every differentiator has another differentiator to distinguish it from all the others. Given that the threatened regress has to be stopped somewhere, it may as well stop with the atoms themselves. His claim is that there are no differentiators, and that it was a mistake of the old school to think that any such category of thing exists. He scoffs at the idea that there is any empirical evidence of their existence. Raghunātha is therefore clearly an eliminativist about differentiators. His rejection of the category is therefore quite different in kind from the rejection of his own new categories by philosophers who came after him, for whom rejecting a category means showing how its members can be "included in" (antarbhāva) some more basic category. This reductionist strategy is already visible in what the later philosophers say about differentiators. Raghudeva says, in his commentary on the Inquiry into the True Nature of Things, that: The meaning of the statement "differentiator is not another category" is that it is not a [sort of] being different from the five beginning with substance. His words echo those of Rāmabhadra, who said that "the meaning is that it is not a [sort of] being different from those beginning with substance".

Raghudeva offers a reductionist, not an eliminativist, reading of Raghunātha's thesis. He takes the claim to be that differentiators are indeed real things, but that they are reducible to entities in the categories of substance, quality, motion, inherence and universal. Raghudeva does not say how the reduction should go, but presumably in the case of atoms, it will make use of the qualities of spatial and temporal separation of one from another, or the quality of contact between atoms and regions

in space and time. It seems more difficult to give a reductive account of the discrimination of one self from another, for the obvious suggestion that it is in virtue of their different mental qualities does not explain what discriminates two selves when they have become liberated, when, according to the standard theory, they no longer have mental lives. The apparently innocent rejection of differentiators thus comes to have have surprisingly radical consequences for the ancient soteriology. We see early modern thinkers in the process of working through these problems in works like Mahādeva's Examination of Selfhood as a Basic Kind. Jayarāma seems to think that it is important to preserve differentiators as the ultimate grounds of distinction between individual human selves, given the absence of generic descriptive individuation.19 Veṇīdatta, for one, resists the elimination of differentiators. He does so on the grounds that the word "differentiator" does not fail to refer, the way "the rabbit's horn" (śaśa-śṛṅga) does (1930: 13; cf. Thakur 2003: 363). It is fundamental to Vaiśeṣika realism that a sort of entity is real if it is denotable by a genuine singular term, and that Meinongian ultra-realism about the merely possible is avoided by denying that fictional terms and names of merely possible objects are genuinely singular. The standard example of such a term is "the rabbit's horn," which can be parsed as saying falsely of the rabbit that it has a horn. Veṇīdatta's argument, then, is that to be an eliminativist about differentiators, that is to deny that differentiators are real at all, one must claim that their names are not genuinely singular. Some followers of Raghunātha do indeed seem to have taken precisely this course, for Raghudeva himself refers to "those who delight in reasoning" (tarka-rasika), who say that a differentiator is the same as a rabbit's horn (1915: 31,18). That comment is interesting and significant, because it confirms what I said earlier, that for these 'new reason' metaphysicians, the whole point is to show that reductionism and realism are compatible. Realism consists in the affirmation that names of differentiators are not like fictional terms; reductionism about differentiators consists in the claim that they are not different in being from entities of some other type. While Raghunātha is an eliminativist about differentiators, his is a non-reductivist in many other domains. He says, for example, that legal ownership is a distinct

category: Being-owned is another category. If you think that it is being-fit-for-use- as-one-wishes, [we answer] "What is that 'use'?" If you say eating and such like, [we answer] "no, for it is possible to eat the food of another." If you say that this is prohibited by written law, [we answer] "Which written law is that?". If you say that it is the scripture beginning "One may not take what belongs to another", [we answer] "How does that apply if one does not yet have the notion of being-owned?" Therefore, being-owned is indeed distinct. And the proof is just the written law beginning "One may not take what belongs to another". It is produced by receiving as a gift, by purchasing, and on inheritance, and it is destroyed by giving away and so on. (1915: 62,1-64,2). The claim is that one can describe the circumstances in which possession comes into being and goes out of existence, but that one cannot define possession in terms that do not presuppose it. Ownership is not a matter of what one can do with the object, but what one is entitled (for example by written law) to do with it. While we can specify the circumstances in which such entitlement arises, one cannot reduce the entitlement itself to something else. The law books tell us that there is such a thing as ownership and under what conditions it comes into being and is transferred, but they do not, and cannot, tell us what ownership itself consists in. The attempt to reduce ownership to the property of being fit to be used as one wishes is in this way undermined. How do later thinkers react? To which traditional category does legal ownership belong? Jayarāma prepared a monograph on the topic, the Meaning of Ownership.

There are particularly interesting discussions in Mādhavadeva and Veṇīdatta. Mādhavadeva (1903–4: 282–6) begins by offering a rather different defence of nonreductionism to that of Raghunātha, but instead follows a pattern of argumentation familiar already from our review of discussions about number. He says that being-owned cannot be a substance, quality or action, because qualities too can be owned! The implicit premise here is the Vaiśeṣika principle that substances, qualities and actions inhere only in substances. To support the rather surprising idea that not only objects but even qualities can become somebody's property, gives as an example the use of a particular red mark as proof of purchase. On the other hand, being-owned cannot belong within the

categories of universal, inherence or differentiator, because unlike them it can be created and destroyed, here implicitly invoking another Vaiśeṣika principle. The whole "proof" is an example of the semi-axiomatic method made possible by the newly regimented metaphysics.

Mādhava does not think it is a sound proof, though, and seems to prefer a performativist theory of ownership, assimilating it to the category of action. Veṇīdatta (1930: 33) considers a rather different proposal, due to Rāmabhadra, a proposal which is consistent with the soundness of the above proof. The proposal is to give the following reductive analysis of legal possession: I own something just in case (i) I purchased it in the past and have not yet sold it, or (ii) I was given it in the past and have not yet given it away, or (iii) I inherited it in the past and have not yet sold it. The anti-reductionist, Veṇīdatta continues, ought not object to this analysis that it makes the word "owned-ness" have a disjunctive meaning, since they too will have trouble explaining what the condition of use for that word other than with reference to "owned-ness-ness". He doesn't come down in favour of one side or the other, but simply remarks that this analysis faces an epistemological difficulty which its proponents need to consider, namely that since one does not know the future, one can never say if, according to this analysis, one owns something or not. This last analysis reveals how the new category of absence transforms reductionist strategies from attempts at naturalization into projects of logical analysis. A similar movement can be seen in the discussion about causal powers. Raghunātha had said that it is right to think that causal power is a new category because to do so is ontologically more economical. His example is the causal power to produce fire, which is found in dry grass — which bursts into flame when dry, in fire-sticks — which burn when rubbed together, and in translucent gems — which produce fire by focussing the sun's rays. It is simpler, argues Raghunātha, to describe this situation as one in which a single causal power is triply instantiated than to say that there are three distinct causal regularities involved (1915: 65,1–66,1). Raghunātha is not the only one to argue that causal power belongs to a separate category; this is also the view of the Mīmāṃsaka thinker Prabhākara. Prabhākara's argument is that objects have dispositional capacities which are not necessarily

instantiated, something that laws between actual causes and actual effects cannot describe. When Mādhavadeva reconstructs the argument non-reductivism, he makes it an argument from elimination rather than an argument from simplicity: However [says the opponent], it is not the case that there are just seven categories, since causal power is in truth a distinct category. How, otherwise, is it that burning with fire does not [automatically] arise when there is a gem and instigating factor? So there is a causal power disposed to burning, which [burning] does not arise from the gem but from the instigating factor. This causal power is not a substance, since it does not possess qualities. Nor is it a quality, since it exists even without the cause of any prescribed quality. Nor is it another quality, distinct from [any of the prescribed ones], for to imagine such a quality is ontologically redundant. Nor does it belong to the category of motion, for it would then wrongly follow that motions like the capacity fire has will be perceptible, since that is the principle governing perceptibility. Nor does it belong to the categories of inherence and so on, since it will be destroyed when it arises. Therefore, it is a distinct category. If this is claimed, [we reply], no. Thinking about the causes [of fire] before it has arisen or after it has ceased to be in terms of a permanent causal power is redundant, for one can imagine the causality to be either with respect to the fire as qualified by the absence of the gem as qualified by the absence of the instigating factor, or with respect to the fire together with the absence of the gem as qualified by the absence of the instigating factor. (1903–4: 3,12–4, 11).

The argument that causal power is irreducible to any of the six categories is here not controverted; rather, what Mādhava provides is a reduction to a complex absence, an unexercised potentiality being analysed into the absence of appropriate triggering causes: “A gem has the power to burn” is analysed as meaning that when the triggering cause is present it burns, and when the triggering cause it absence it does not burn. Mādhava in effect concedes that there were good reasons in the time of Prabhākara to treat causal power as an additional category, but that the inclusion of absence as a distinct category gives the Vaiśeṣika new scope for a successful reduction. Again, in a decisive break from the ancient tradition, Raghunātha declares in the Inquiry into the True Nature of

Things that numbers constitute a new category altogether: Number is a separate category, not a quality, for we make the judgment that there is possession of number in qualities, etc. And this judgment is not an erroneous one, for there is no other judgement which contradicts it. If you argue that judgments of this kind occur when there is inherence of two qualifiers in one individual, I say no, for inherence and inherence-oftwo-qualifiers-in-one-substratum are two different relations, from which one cannot derive the homogenous idea of possession. (Inquiry into the True Nature of Things 1915: 75.1–5. Potter's translation, slightly altered). Raghunātha's thesis is that the is-the-number-of relation is not reducible to the relation of inherence or any relation constructed out of it. In alternating between eliminativism and irreductivism, Raghunātha reveals himself to be at best uncomfortable with the idea that one can be a reductionist and a realist at the same time. This is the position, however, which emerges as the most attractive in the seventeenth century. The ability to see that there is a way to escape the antinomy produced by the false dichotomy between realism and reductionism is one of the great "conceptual breaks" of the period.

10.7 RAGHUNĀTHA'S IMPACT ON THE SEVENTEENTH CENTURY

Raghunātha's Inquiry into the True Nature of Things was taken very seriously in the seventeenth century, in spite of the fact that it very radically altered, while remaining reliant upon, the traditional metaphysics of the Vaiśeṣika-sūtra and Praśastapāda's expansion. It was not revolutionary in the sense of casting aside the entire Vaiśeṣika account in favour of a quite different one, but rather it reworked the basic ideas in line with a new underlying principle. The new principle, I have claimed, is an anti-reductionist realism. A lot of the ancient metaphysics could be squared with this principle, but much could not be. Raghunātha, in trying to make constructive metaphysics rest on a clear philosophical foundation, had no choice but to engage in a reworking of the ancient categories. His attitude towards ancient philosophy, then, seems to be that there is a good underlying metaphysical insight, but that it has not been articulated with clarity and consistency in the ancient texts or their

pre-modern interpreters. One form that the response to Raghunātha took was to offer a different foundational principle, which, it was claimed could salvage more of the ancient theory. For many of the Vārāṇasī metaphysicians, that principle is a "sophisticated" reductive realism. In either case, the point I want to make is that there has been a fundamental shift in attitude towards the ancient: no longer is one of deference, the new attitude to enter into conversation with, to learn from, ancient sources, but not be beholden to them. This is precisely the attitude, I have claimed, which we find in some of the early modern philosophers in Europe too. It is the distinctive trait of early modernity. Let me re-affirm that I think that it should be evident that Raghunātha's contribution is one of philosophical substance, and not merely of expressive style. Sheldon Pollock says that In the eyes of many seventeenth-century writers, Raghunātha represents the new scholar par excellence, and his metalinguistic innovations in the search of ever greater precision and sophistication of definition and analysis were enormously influential. These innovations sometimes produced — as readers of say, Heidegger would appreciate — the opposite of the intended result: Raghunātha's style makes his work undoubtedly the most challenging to read in the whole of Indian philosophy. (2001b: 12).

Behind the apparent praise there is here an ever-so slight insinuation that Raghunātha's cleverness consists in certain obfuscation. Pollock describes Raghunātha's contribution as a "transformation in discursive style." What I hope that our case-study has established is that such a judgement does not engage with the real philosophical content of Raghunātha's thought, an originality of content that in turn led him to invent new modalities of articulation. Nor is it correct to describe his style as "the most challenging to read in the whole of Indian philosophy" — it is difficult, laconic, and technical, but no more so than work in any specialist field of inquiry. Frauwallner's views about the history of philosophy have exerted an unfortunate influence on perceptions of early modernity in India, Frauwallner saying of Raghunātha that Not only does he strive for brevity but he takes pleasure in contrived and artificial obscurity. He does not speak clearly but gives hints, so that different interpretations are possible. Often important links in the train of thought

are left out and the reader has to guess the omissions. It is also characteristic that he avoids saying openly what his own view is. That is why his work is unusually difficult to read. But this obscurity which pretends to be depth of thought, may have contributed, not in a small way, to the reputation which his work enjoyed subsequently. (Frauwallner 1994a: 55).

Frauwallner is clearly quite unable or unwilling to appreciate Raghunātha's work in appropriate terms, and his criticism is reminiscent of those critics of Wittgenstein who berate his unsystematic style and likewise make unwarranted and ad hominem accusations of intellectual dishonesty. The publication in 1968 of Matilal's annotated translation and critical study of Raghunātha's Treatise on Negation decisively undermined Frauwallner's claim, a claim motivated in part by Frauwallner's larger ambition to present Aryan culture as a great ancient civilization that fell into stagnation, modernity thereby being preserved as a distinctively Germanic achievement.

Is it possible to reach any conclusions about the type of "illocutionary intervention" that Raghunātha took his work to be making? Clearly, he was fortunate in living in a highly accultured city at a time of relative calm and surrounded by many sources of intellectual inspiration. One text from the period concludes by saying that it was written in Navadvīpa in 1494, under the peaceful governance of Majlisavarvaka, a place full of learning and learned men. Raghunātha, of course, would have been among them. On the basis of this document, D.C. Bhattacharya is — and in this he is more or less unique among Navya Nyāya historians — willing to allow the importance of benign Muslim governance: The historical importance of this newly discovered information should not be overlooked. In the cultural history of Bengal, [Raghunātha] Śiromaṇi's victory over Mithilā and his writing the Dīdhiti are unique events, and it is indeed interesting information, according to the new evidence, that behind the writing of the Dīdhiti was the unhesitating inspiration of Muslim kingly power.

The claim that there was an "unhesitating inspiration" is an exaggeration, but there is little doubt that during Raghunātha's lifetime Navadvīpa was a place of great scholarship and comparatively peaceful Muslim rule.

This, though, does not in itself explain his originality, even if it is a sine qua non. One further consideration is Raghunātha's relationship with the scholastic community in Mithilā. Both he, and before him his teacher Vāsudeva, went, it seems, to study in Mithilā before returning to Navadvīpa. There seems to be a clear sense in which one of the things Raghunātha is trying to do is to retrieve Gaṅgeśa from them, to recover a thinker lost in the mires of a conservative scholasticism. Another consideration is Raghunātha's relationship with Vāsudeva, someone who taught the convert to Sufism, Sanātaṇa Gosvāmi, the private secretary of Husain Shāh, who left Navadvīpa for Orissa, and wrote and taught both Navya Nyāya and Vedānta, and was the uncle of the well-connected Vidyānivāsa, a man who would emerge as the head of an important stream of Navya Nyāya influence. I think it would have worked to Raghunātha's advantage that he was not himself a member of that powerful family, not having to bear responsibility for the family's prestige and wealth. Being on the periphery, he was able to benefit from a close association without the burden. I highlighted a particular intellectual virtue in his work, namely its provocative playfulness, its lack of a certain sort of heaviness. I am suggesting that what made this possible is his location in the penumbra of scholarly power, neither too remote nor too close. A final consideration is his exposure to other very dynamic and engaging intellectual programmes in a culturally hybrid city under the administration of the liberal Husain Shāh. Even if one is not inclined towards syncretism or overt dialogue, the existence of alternative world-views as real lived possibilities exerts its own influence. Not stifled in the conservative environment of Mithilā, Raghunātha had options the Mithilā scholars did not. The illocutionary force of the Inquiry into the True Nature of Things, its "intervention," consists in a call for a re-orientation of gaze, away from the texts and onto the facts themselves. If you don't like the idea of treating numbers as a new type of entity, he seems to be saying, then show me how to do better and still be true to the facts about the logical form of number statements. This is typical of the challenge Raghunātha's work had. It is also typical that we have had to collect together his comments from various texts, in contexts not clearly marked as having to do with the

subject in hand. This left his followers, and his critics, with plenty of work to do. Raghunātha's innovativeness consists, in the first instance, in a radically new conception of one's duties, as a philosopher, to the past. The new spirit is nicely put by Veṇīdatta at the end of his Embellishment of the Categories. He says that that it is acceptable to modify (ūh-) the ols scheme of metaphysical categories if it done on the basis of a deliberation (vicāra) involving considerations of simplicity and complexity, even without there being a conflict with the ancient sources, and that Raghunātha's theory too could thus be modified. Indeed, if this were not the case, a scepticism which denies all the categories would be confirmed, for while one can agree to reject categories that do conflict with the ancient sources, the rejection of a category which does not must be a matter of careful thought.

The early modern philosopher enters into a conversation with the ancient texts, neither discarding them altogether nor allowing one's own reason to be subservient to them. Veṇīdatta refers to a type of reasoning, 'modification' as one of the key instruments in the new approach to the past.

Check Your Progress 1

Note: Use the space provided for your answer

1. Discuss about Didhiti O Raghunatha.

……

……

……

2. RAGHUNĀTHA ŚIROMAṆI AND THE ORIGINS OF MODERNITY IN INDIA.

……

……

……

3. Discuss the Life and Work of Raghunatha.

……

……

……

4. What are the Raghunātha's Challenge in Metaphysics?

……

……

……

10.10 LET US SUM UP

Raghunātha Śiromaṇi (c.1460–c.1540)2 is the first modern philosopher, his ideas single-handedly responsible for the emergence of a new form of Navya-Nyāya, the 'new reason', in the sixteenth and seventeenth centuries. He was born and lived in the remarkable town of Navadvīpa, a town roughly a hundred kilometres north of modern day Kolkata. Many modern Indians continue to this day to celebrate Navadvīpa as the birthplace of the religious reformer Caitanya, who was Raghunātha's peer and, at least according to legend, the student of a common teacher. In the fifteenth, sixteenth, and seventeenth centuries, the town of Navadvīpa, which is also known by its latinized name Nadia or Nuddea, was one of the great sites of scholarship in South Asia. Students from all over the subcontinent, indeed from Nepal and possibly even Tibet, were attracted to a strict programme of studies in the 'new reason', a vigorous intellectual community, and the eventual prospect of prestigious certification by title. The programme of studies was provided in ṭols run by a series of celebrated paṇḍits, whose more important works were frequently transcribed and swiftly distributed throughout India.

10.11 KEY WORDS

Perspective: A point of view, in philosophy, is an attitude – how one sees or thinks: a specified manner of consideration as in "my personal point of view". In this meaning, the usage is synonymous with one of the meanings of the term perspective. This figurative usage of the expression is from 1760.

Philosophy: Philosophy is the study of general and fundamental questions about existence, knowledge, values, reason, mind, and

language. Such questions are often posed as problems to be studied or resolved. The term was probably coined by Pythagoras

10.12 QUESTIONS FOR REVIEW

1. What are the Old Categories Eliminated, New Categories Affirmed?
2. Discuss Raghunātha's Impact on the Seventeenth Century.

10.13 SUGGESTED READINGS AND REFERENCES

- Chatterjee, K. N., 1980. Word and its Meaning—A New Perspective, Varanasi: Chaukhambha Orientalia.
- Chatterjee, S. C., 1965. The Nyāya Theory of Knowledge, Calcutta: University of Calcutta.
- Coward, H. G., 1980. Sphoṭa Theory of Language, Delhi: Motilal Banarsidass.
- Coward, H. G. & Raja, K. K. (eds.), 1990. The Philosophy of the Grammarians, Princeton: Princeton University Press.
- Abū'l Faẓl (1873, 1894 [1597]). The Āin-i-Akbari by Abū'l Faẓl 'Allami, translated from the original Persian by H. Blochmann (vol. 1: 1873), and H.S. Jarrett (vols 2, 3: 1894) (Calcutta: Baptist Mission Press).
- Annambhaṭṭa (1918). Survey of [what can be known though] Reason (Tarka-saṃgraha), with auto-commentary Dīpikā, Y.V. Athalye ed. (Poona: Bhandarkar Oriental Research Institute).
- Bhattacharya, D.C. (1940). "Vāsudeva Sārvabhauma," Indian Historical Quarterly 16: 58–69.
- Bhattacharya, D.C. (1952). Vāṅgālīr Sārasvat Avadān: Baṅge Navya-nyāya Carcā (Calcutta: Sahitya Pariṣat, 1952). (References in the form 1952[33] are to the as yet unpublished translation by Nirmalya Chakraborty.)

10.14 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 10.2
2. See Section 10.3
3. See Section 10.4
4. See Section 10.5

UNIT 11: NYAYA – VAISESIKA

STRUCTURE

11.0 OBJECTIVES

After reading this unit, the student should be able to:

- Understand the orthodox systems of the Nyaya and Vaisesika.
- Elucidate the Nyaya theory of knowledge.
- Discuss the Nyaya theory of causation.
- Recognize Nyaya conception of God and proofs for the existence of God.
- Be aware of the categories of Vaisesika.
- Appreciate the Vaisesika theory of Atomism.
- Comprehend the Vaisesika concept of Bondage and Liberation.

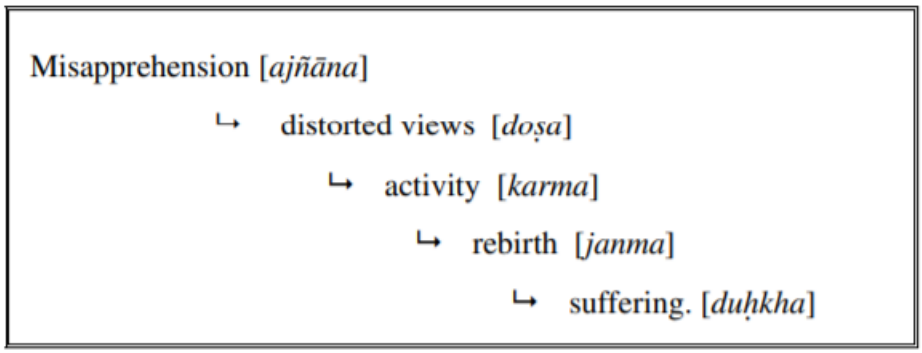
11.1 INTRODUCTION

The Nyaya is the work of the great philosopher and sage Gautama. It is a realistic philosophy based mainly on logical grounds. It admits four separate sources of true knowledge. Perception (pratyaksa), inference

(anumana), comparison (upamana) and testimony (sabda) are the sources of true knowledge. Perception is the direct knowledge of objects produced by their relation to our senses. Inference is the knowledge of objects not through perception but through the apprehension of some mark. Comparison is the knowledge of the relation between a name and things so named on the basis of a given description of their similarity to some familiar object. Testimony is the knowledge about anything derived from the statements of authoritative persons. The objects of knowledge, according to the Nyaya, are the self, the body, the senses and their objects, cognition (buddhi), mind (manas), activity (pravritti), mental defects (dosa) rebirth (pretyabhava), the feeling of pleasure and pain (phala), suffering (dukkha), and freedom from suffering (apavarga). The Nyaya seeks to deliver the self from its bondage to the body, the senses and their objects. It says that the self is distinct from the body and the mind. The body is only a composite substance made of matter. The mind is a subtle, indivisible and eternal substance. It serves the soul as an instrument for the perception of psychic qualities like pleasure, pain, etc; it is, therefore, called an internal sense. The self (atman) is another substance which is quite distinct from the mind and the body. Liberation (apavarga) means the absolute cessation of all pain and suffering brought about by the right knowledge of reality (tattva jnana). Liberation is only release from pain. The existence of God is proved by the Nyaya by several arguments. God is the ultimate cause of the creation, maintenance and destruction of the world. Nyaya did not create the world out of nothing, but out of eternal atoms, space, time, ether, minds and souls. The Vaisesika system was founded by the philosopher and the sage Kanada. The Vaisesika is allied to the Nyaya system and has the same end view, namely, the liberation of the individual self. It brings all objects of knowledge, the whole world, under the seven categories of substance (dravya), quality (guna), action (karma), generality (samanya), particularity (visesa), the relation of inherence (samavaya), and non-existence (abhava). A substance is the substratum of qualities and activities, but is different from both. A quality is that which exists in a substance and has itself no quality or activity. An action is a movement. Particularity is the ground of the ultimate differences of things. Inherence

is the permanent or eternal relation by which a whole is in its parts; a quality or an action is in a substance; the universal is in the particulars. Non-existence stands for all negative facts. With regard to God and liberation of the individual soul the Vaisesika theory is substantially the same as that of the Nyaya.

All systems of Indian philosophy begin with the problem of suffering – duḥkha. T 3 The goal of the Nyāya is to enable us to attain the highest goal of life which is Liberation from duḥkha and the attendant cycle of births and deaths — mokṣa, variously known as 'release', 'freedom', 'emancipation' or nirvāṇa – the state of non-return to birth/death. According to nyāyikas the world presents itself to us as a chain of consequences which needs to be broken in order to attain Liberation from suffering



Misapprehension — the inability to see things as they really are. We see things as we want to see them. We superimpose false ideas and concepts upon reality — we identify the Self with the mind/body complex.

Distorted views — this refers to our tendency for ego-centrism, and the creation of a vast network of false identities and ideologies in order to bolster and maintain the ego-notions we hold dear. We identify through our genders, our race, class, tribes, family, nation, hobbies, ideologies etc. Each of these roles has three dynamic forces of attraction – to those things, places, people etc. that confirm our identity, and aversion for anything, person or idea that challenges who we think we are. And these two forces contribute to our delusion – the psycho-drama which we inhabit.

Karma — we then perform activity in accordance with this false view of ourselves and the world; designed to perpetuate our transient selves and

to give some meaning to our lives. All actions involving other beings have three possible outcomes; negative (cause suffering), positive (cause joy), or neutral. Negative and positive acts result in consequences which are experienced either now or later.

Rebirth — in order to actualise the karma that we have created for good or bad. Suffering — dis-ease, dissatisfaction, unhappiness, stress, depression etc.

The Nyāya examines the logic and coherence of philosophical or religious statements, and by comparing such statements with other widely-held beliefs about life, assess the appropriateness of accepting them as true. What is rational? — The rational process is one in which conclusion are drawn from premises by a sequel of cognitive steps which can be followed, verified, and which others (provided they understand the meaning of the words used) would accept as being true — true for everyone, not just for one particular individual. The study of Nyāya enables us to discern the true from the false, and ensures the avoidance of false teachings and beliefs while knowledge matures into the dawning of insight and enlightenment. Today, as was the case centuries ago we are confronted by many gurus with many teachings, many different social and political ideologies all competing with each other. The conflicting doctrines and ideologies of each new sect and teacher raises doubts as to which is the right path. The spiritual aspirant is confronted with the same problem of trying to discern the true from the false. The teachings of the Nyāya System are intended to give us a rational basis for investigating and knowing the Truth. The Nyāya deals with critical inquiry. It explores all beliefs – traditional and modern and argues vigorously against all superstition and prejudiced and irrational beliefs. Wherever there is constructive thinking directed at acquiring real understanding there is a need for Logic. This desire for seeking truth is innate in human nature and logic enables us to accomplish constructive rational thinking. The purpose of logic is the realisation of the Self by providing the means of studying, listening, reflecting and judging. This culminates in the removal of doubt and leads to mature wisdom, or to confirm that which has been passed down through tradition. It is only by a thorough examination of the sources and expressions can Truth be ascertained.

Therefore, all knowledge and traditional teaching offered to us, as well as our personal experiences and ideas must be submitted to critical inquiry. The chief concern of the Nyāya methodology is the means of knowing and not the nature of knowledge.

11.2 NYAYA AND VAISESIKA

Nyaya is a system of atomic pluralism and logical realism. It is allied to the Vaisesika system which is regarded as 'Samanatantra or similar philosophy. Vaisesika develops metaphysics and ontology. Nyaya develops logic and epistemology. Both agree in viewing the earthly life as full of suffering, as bondage of the soul; liberation is absolute cessation of suffering as the supreme end of life. Both agree that bondage is due to ignorance of reality and that liberation is due to right knowledge of reality. Vaisesika takes up the exposition of reality and Nyaya mostly accepts the Vaisesika metaphysics. But there are some important points of difference between them which may be noted. Firstly, while the Vaisesika recognizes seven categories and classifies all real under them, the Nyaya recognizes sixteen categories and includes all the seven categories of the Vaisesikas in one of them called prameya or the knowable, the second in the sixteen. The first category is pramana or the valid means of knowledge. This clearly brings out the predominantly logical and epistemological character of the Nyaya system. Secondly, while the Vaisesika recognizes only two pramanas, perception and inference and reduces comparison and verbal authority to inference, the Nyaya recognizes all the four as separate – perception, inference, comparison and verbal authority.

1. Clarification of the topic that is being discussed. Read or listen to the question and identify what the issue actually is. 2. Ask for definitions of the key terms – to make sure that you are both talking about the same thing. Not everyone understands terms in the same way. A person may use a term incorrectly or out of place or means by it something else. 3. Once the topic and terms have been defined and clarified one may then engage in the debate or argument. Sanskrit is a fixed language in that all the terms are clearly defined. But each and every word has multiple

meanings and thus confusion can arise about which meaning is intended. e.g. ābja literally means "born of water" and can refer to either a fish, a conch shell or a lotus – depending on the context. Words thus have literal meanings and figurative meanings. Modern English is a rapidly evolving language with new words and phrases being created every day. Many words are created for technical usage in describing new discoveries and phenomena, and many words are either invented or deployed to produce an emotional affect rather than to accurately describe a phenomenon. e.g. The term "Islamophobia" was invented at a Muslim Brotherhood workshop in order to pathologize any objection to Islam and to shut down debate and demonise opponents. Islamophobia was modelled on the concept of "homophobia" which is an irrational fear of homosexuals which leads to physical violence, verbal abuse and discrimination against them. Phobia is an irrational fear of something and is a psychological disorder. Now the difference between these two concepts – homosexuals are not an organised group of people with doctrines of holy war against heterosexuals. There is no homosexual agenda to spread their sexual preference and to establish a world-wide empire of homosexuality. It is simply an inborn sexual orientation which cannot be changed and involves the private actions of two people. Islam on the other hand does have an organization, lobby groups, and conquest agenda. Islam has a history of 1400 years of jihad and has a proven record of violence and murder in the name of Islam. Although the vast majority of Muslims are good and law abide citizens it's the fanatics that one must fear. And these fanatics are truly capable and more than willing to murder to redress assumed or imagined wrongs – so is a fear of them "irrational"? Other terms which are socio-political buzz words and used for their emotional valency are:– equality, diversity, inclusivity, multiculturalism, sensitivity etc. If you don't agree with your opponent or choose not to debate and want to shut him down you label him a Fascist or neo-Nazi or alt-right winger, racist, sexist, misogynist or some such epithet which doesn't actually describe him but simply tarnishes and demonizes him.

11.3 NYAYA THEORY OF KNOWLEDGE

Knowledge or Cognition is defined as apprehension or consciousness. Nyaya believes that knowledge reveals both the subject and the object; they are quite distinct from knowledge. All knowledge is a revelation or manifestation of objects. Just as a lamp manifests physical things placed before it, so knowledge reveals all objects which come before it. Knowledge may be valid or invalid. Valid knowledge is defined as the right apprehension of an object. It is the manifestation of an object as it is. Nyaya maintains the theory of correspondence (paratah pramanya). Knowledge in order to be valid, must correspond to reality. Valid knowledge is produced by the four valid means of knowledge-perception, inference, comparison and testimony. Invalid knowledge includes memory (smrti), doubt (samshaya), error (viparyaya) and hypothetical reasoning (tarka). Memory is not valid because it is not present cognition but a represented one. The object remembered is not directly presented to the soul, but only indirectly recalled. Doubt is uncertainty in cognition. Error is misapprehension as it does not correspond to the real object. Hypothetical reasoning is no real knowledge. Perception, inference, comparison or analogy and verbal testimony are the four kinds of valid knowledge. Let us consider them one by one. Sage Gotama defines perception as non-erroneous cognition which is produced by the intercourse of the sense-organs with the objects; it is not associated with a name and which is well-defined. Inference is defines as that cognition which presupposes some other cognition. Inference is mediate and indirect. Comparison defined as the knowledge of the relation between a word and its denotation. It is produce by the knowledge of resemblance or similarity. Verbal testimony is defined as the statement of a trustworthy person and consists in understanding its meaning.

11.4 NYAYA THEORY OF CAUSATION

Let us now consider the Nyaya theory of Causation. A cause is defined as an unconditional and invariable antecedent of an effect. The same cause produces the same effect and the same effect is produced by the same cause. Plurality of cause is ruled out. The first essential characteristic of a cause is its antecedence; the fact that it should precede

the effect. The second is its invariability; it must invariably precede the effect. The third is its unconditionality or necessity; it must unconditionally precede the effect. Nyaya recognizes five kinds of accidental antecedents which are not real causes. Firstly, the qualities of a cause are mere accidental antecedents. The color of a potter's staff is not the cause of a pot. Secondly, the cause of a cause or a remote cause is not unconditional. The potter's father is not the cause of a pot. Thirdly, the co-effects of a cause are themselves not causally related. The sound produced by the potter's staff is not the cause of a pot, though it may invariably precede the pot. Night and day are not causally related. Fourthly, eternal substances like space are not unconditional antecedents. Fifthly, unnecessary things like the potter's ass are not unconditional antecedents; though the potter's ass may be invariably present when the potter is making a pot, yet it is not the cause of the pot. A cause must be an unconditional and necessary antecedent. Nyaya emphasizes the sequence view of causality. Cause and effect are never simultaneous. Plurality of causes is also wrong because causal relation is reciprocal. The same effect cannot be produced by another cause. Each effect has its distinctive features and has only one specific cause. An effect is defined as the counter-entity of its own prior non-existence. It is the negation of its own prior negation. It comes into being and destroys its prior non-existence. It was non-existent before its production. It did not pre-exist in its cause. It is a fresh beginning, a new creation.

11.5 NYAYA THEORY OF THE PHYSICAL WORLD

Now we come to the topic of the objects of knowledge. The physical world is constituted by the four physical substances of earth, water, fire and air. The ultimate constituents of these four substances are the eternal and unchanging atoms of earth, water, fire and air. Akasa or ether, kala or time, and dik or space is eternal and infinite substances, each being one single whole. Thus the physical world is the product of the four kinds of atoms of earth, water, fire and air. It contains all the composite products of these atoms, and their qualities and relations, including organic bodies, the senses, and the sensible qualities of things. According

to Gautama the objects of knowledge are the self, the body, the senses and their objects, knowledge, mind, activity, the mental imperfections, rebirth, the feelings of pleasure and pain, suffering, absolute freedom from all suffering. All of these knowable are not to be found in the physical world, because it includes only those objects that either physical or somehow belong to the world of physical nature. Thus the self, its attribute of knowledge and manas are not at all physical. Time and space are two substances which although different from the physical substances, yet somehow belong to the physical world. Akasa is a physical substance which is not a productive cause of anything.

11.6 NYAYA CONCEPT OF GOD

God is the ultimate cause of creation, maintenance and destruction of the world. God is the eternal infinite self who creates, maintains and destroys the world. He does not create the world out of nothing, but out of eternal atoms, space, time, ether, minds and souls. The creation of the world means the ordering of the eternal entities, which are co-existent with God, into a moral world, in which individual selves enjoy and suffer according to the merit and demerit of their actions, and all physical objects serve as means to the moral and spiritual ends of our life. God is thus the creator of the world in the sense of being the first efficient cause of the world and not its material cause. He is also the preserver of the world in so far as the world is kept in existence by the will of God. So also He is the destroyer who lets loose the forces of destruction when the exigencies of the moral world require it. Then, God is one, infinite and eternal, since the world of space and time, minds and souls does not limit him, but is related to Him as a body to the self which resides in it. He is omnipotent, although He is guided in His activities by moral considerations of the merit and demerit of human actions. He is omniscient in so far as He possesses right knowledge of all things and events. He has eternal consciousness as a power of direct and steadfast cognition of all objects. Eternal consciousness is only an inseparable attribute of God, not His very essence, as maintained in the Advaita Vedanta. He possesses to the full all the six perfections and is majestic, almighty, all glorious, infinitely beautiful and possessed of infinite

knowledge and perfect freedom from attachment. Just as God is the efficient cause of the world, so He is the directive cause of the actions of all living beings. Nyaya gives the following arguments to prove the existence of God:

1. The world is an effect and hence it must have an efficient cause. This intelligent agent is God. The order, design, co-ordination between different phenomena comes from God.

2. The atoms being essentially inactive cannot form the different combinations unless God gives motion to them. The Unseen Power, the Adrsta, requires the intelligence of God. Without God it cannot supply motion to the atoms.

3. The world is sustained by God's will. Unintelligent Adrsta cannot do this. And the world is destroyed by God's will.

4. A word has a meaning and signifies an object. The power of words to signify their objects comes from God.

5. God is the author of the infallible Veda.

6. The Veda testifies to the existence of God.

7. The Vedic sentences deal with moral injunctions and prohibitions. The Vedic commands are the Divine commands. God is the creator and promulgator of the moral laws.

8. According to Nyaya the magnitude of a dyad is not produced by the infinitesimal magnitude of the two atoms each, but by the number of the two atoms. Number 'one' is directly perceived, but other numbers are conceptual creations. Numerical conception is related to the mind of the perceiver. At the time of creation, the souls are unconscious. And the atoms and the unseen Power and space, time, mind are all unconscious.

Hence the numerical conception depends upon the Divine Consciousness. So God must exist.

9. We reap the fruits of our own actions. Merit and demerit accrue from our actions and the stock of merit and demerit is called Adrsta, the unseen power. But this Unseen Power, being unintelligent, needs the guidance of a supremely intelligent God.

Check Your Progress 1

Note: Use the space provided for your answer.

1) How many sources of knowledge are accepted by Nyaya? Explain.

……

……

……

2) Explain asatkarya vada of Nyaya.

……

……

……

3) State the arguments of Nyaya for proving the existence of God.

……

……

……

11.7 VAISESIKA CONCEPT OF PADARTHA OR CATEGORY

The Vaisesika system is regarded as conducive to the study of all systems. Its main purpose is to deal with the categories and to unfold its atomistic pluralism. A category is called padartha and the entire universe is reduced to six or seven padarthas. Padartha literally means the meaning of a word or the object signified by a word. All objects of knowledge or all reals come under padartha. Padartha means an object which can be thought and named. Originally the Vaisesika believed in the six categories and the seventh, that of abhava or negation was added later on. Though Kanada himself speaks of abhava, yet he does not give

it the status of a category to which it was raised only by the later Vaisesikas. The Vaisesika divides all existent reals which are all objects of knowledge into two classes; bhava or being and abhava or non-being. Six categories come under bhava and the seventh is abhava. All knowledge necessarily points to an object of knowledge and is called a padartha. The seven padarthas are: 1 substance (dravya), 2 quality (guna), 3 Activity (karma), 4 generality (samanya), 5 particularity (visesa), 6 inherence (samavaya), and 7. non-being (abhava).

1. Dravya Or Substance Dravya or substance is defined as the substratum where actions and qualities in here and which is the coexistent material cause of the composite things produce from it. Substance signifies the self-subsistence, the absolute and independent nature of things. The category of substance is the substratum of qualities and actions. The dravyas are nine and include material as well as spiritual substances. The Vaisesika philosophy is pluralistic and realistic but not materialistic since it admits spiritual substances. The nine substances are: 1) earth (prthivi), 2) Water (Ap), 3) Fire (tejas), 4) Air (vayu), 5) ether (akasa), 6) time (kala), 7) space (dik), 8) spirit (atman) and 9) mind (manas). Earth, water, fire and air really signify not compound transient objects made out of them, but the ultimate elements, the supersensible eternal part less unique atoms which are individual and infinitesimal. Earth, water, fire, air and ether are the five gross elements. These and manas are physical. Soul is spiritual. Time and space are objective and not subjective forms of experience. Ether, space, time and soul are all-pervading and eternal. Atoms, minds and souls are infinite in number. Ether, space and time are one each.
2. Guna or Quality The second category is guna or quality. Unlike substance, it cannot exist independently by itself and possesses no quality or action. It inheres in a substance and depends for its existence on the substance and is not a constitutive cause of anything. It is called an independent reality because it can be conceived, thought and named independent of a substance where it inheres. The qualities are therefore called objective entities. They are not necessarily eternal. They include both material and mental

qualities. They are a static and permanent feature of a substance, whole action of a dynamic and transient feature of a substance. A quality, therefore, is different from both substance and action. Qualities include material and spiritual properties. Smell is the quality of earth; taste of water; color of fire; touch of air; and sound of ether. Cognition, pleasure, pain, desire, aversion, volition are the mental qualities which inhere in the self.

3. Karma or Action The third category is karma or action. Like quality, it belongs to and inheres in a substance and cannot exist separately from it. But while a quality is a static and permanent feature of a substance, an action is a dynamic and transient feature of it. Unlike a quality, an action is the cause of conjunction and disjunction. Action is said to be of five kinds:1) upward movement, 2) downward movement, 3) contraction, 4) expansion, and 5) locomotion.
4. Samanya or Generality The fourth category is samanya or generality. Samanya is generality. Generality is class-concept, class-essence or universal. It is the common character of the things which fall under the same class. The universals reside in substances, qualities and actions. They are of two kinds, higher and lower. The higher generality is that of 'being'. It includes everything and itself is not included in anything. Every other generality is lower because it covers a limited number of things and cannot cover all things. A universal cannot subsist in another universal; otherwise an individual may be a man, a cow, and a horse at the same time.
5. Visesa or Particularity The fifth category is Visesa or particularity. It enables us to perceive things as different from one another. Every individual is a particular, a single and a unique thing different from all others. It has got a unique of its own which constitutes its particularity. It is opposed to generality. Generality is inclusive; particularly is exclusive. Generality forms the basis of assimilation; particularity forms the basis of discrimination. It is very important to remember that the composite objects of this world which we generally call 'particular' objects are not real particular.

6. Samavaya or Inherence The sixth category is Samavaya or inseparable relation called ‘inherence.’ It is different conjunction or samyoga which is separable and transient relation and is a quality. Samavaya is an independent category. Kanada calls it the relation between cause and effect. Samvaya is one and eternal relationship subsisting between two things inseparably connected.
7. Abhava The seventh category is Abhava or non-existence. Kanada does not mention it as a separate category. Absence of an object and knowledge of its absence are different. The first six categories are positive. This is negative. The other categories are regarded as absolute, but this category is relative in its conception. Non-existence is of four kinds: 1) antecedent nonexistence, 2) subsequent non-existence, 3) mutual non-existence and 4) absolute non-existence.

11.8 VAISESIKA ON ATOMS AND CREATION

According to Vaisesika diversity and not unity is at the root of the universe. Vaisesika says that atom is the minutest particle of matter which may not be further divisible. The indivisible, partless and eternal particle of matter is called an atom (paramanu). All physical things are produced by the combination of atoms. Therefore creation means the combination of atoms in different proportions and destruction means the dissolution of such combination. The material cause of the universe is neither produced nor destroyed. It is the eternal atoms. The atoms are said to be of four kinds; of earth, water, fire and air. Ether or akasha is not atomic. It is one and all-pervading and affords the medium for the combinations of the atoms. The atoms differ from one another both in quantity and in quality. Each has a particularity of its own and exists as a separate reality. During dissolution, they remain inactive. Motion is imparted to them by the unseen power (adrsta) of merit (dharma) and demerit (adharma) which resides in the individual souls and wants to fructify in the form of enjoyment or suffering. Atoms are suprasensible. Atoms increase by multiplication and not by mere addition. When motion is imparted to them by the unseen power, they begin to vibrate

and immediately change into dyads. A dyad is produced by the combination of two atoms. The atoms are its inherent cause; conjunction is its non-inherent cause; and the Unseen power is its efficient cause. An atom is indivisible, spherical and imperceptible. A dyad (dvyanuka) is minute (anu), short (hrasva) and imperceptible. From the standpoint of ancient Indian philosophy the world including physical nature is a moral stage for the education and emancipation of individual souls.

The Vaisesika atomic theory of the world is guided by spiritual outlook of ancient Indian philosophy. The atomic theory of the Vaisesika explains that part of the world which is non-eternal subject to origin and destruction in time. The eternal constituents of the universe, namely, the four kinds of atoms, and the five substances of akasa, space, time, mind, and soul, do not come within the purview of their atomic theory, because these can neither be created nor destroyed. On the other hand, all composite objects, beginning with a dyad or the first compound of only two atoms (dvyanuka) are non-eternal. So the atomic theory explains the order of creation and destruction of these non-eternal objects. All composite objects are constituted by the combination of atoms and destroyed through their separation. The first combination of two atoms is called a dvyanuka or dyad, and a combination of three dyads (dvyanukas) is called a tryanuka or triad. The Tryanuka is also called the trasarenu and it is the minimum perceptible object according to the Vaisesika. The paramanu or atom and the dvyanuka or dyad, being smaller than the tryanuka or triad, cannot be perceived, but are known through inference. All the finite objects of the physical world and the physical world itself are composed of the four kinds of atoms in the form of dyads, triads and other larger compounds arise out of these. The world or the universe is a system of physical things and living beings having bodies with senses and possessing mind, intellect and egoism. All these exist and interact with one another, in time, space and akasa. Living beings are souls who enjoy or suffer in this world according to their character; wise or ignorant, good or bad, virtuous or vicious.

The order of the world is, on the whole, a moral order in which the life and destiny of all individual selves are governed, not only by the physical laws of time and space, but also by the universal moral law of karma. In

the simplest form this law means 'as you sow, so you reap,' just as the physical law of causation, in its most abstract form, means that there can be no effect without a cause. Vaisesika admits the reality of the spiritual substances, souls and God, and also admits the law of karma. The atoms are the material cause of the world of which God, assisted by the Unseen power, is the efficient cause. The physical world presupposes the moral order. Evolution is due to the Unseen Power consisting of merits and demerits of the individual souls which want to bear fruits as enjoyments or sufferings to be experienced by the souls. Keeping in view this moral order of the universe, the Vaisesika explains the process of creation and destruction of the world as follows: The starting-point of the process of creation or destruction is the will of the supreme Lord (Mahesvara) who is the ruler of the whole universe. The Lord conceives the will to create a universe in which individual beings may get their proper share of the experience of pleasure and pain according to their deserts. The world being beginningless (anadi), we cannot speak of a first creation of the world. In truth, every creation is preceded by some order of creation. To create is to destroy an existing order of things and usher in a new order. Hence it is that God's creative will has reference to the stock of merit and demerit act with souls, endowed with the creative function of adrsta that first sets in motion the atoms acquired by individual souls in a previous life lived in some other world. When God thus wills to create a world, the unseen forces of moral deserts in the eternal individual souls begin to function in the direction of creation and the active life of experiences. And it is the content of air. Out of the combination of air-atoms, in the form of dyads and triads, arises the gross physical element of air, and it exists as an incessantly vibrating medium in the eternal akasa. Then, in a similar way, there is motion in the atoms of water and the creation of the gross element of water which exists in the air and is moved by it. Next, the atoms of earth are set in motion in a similar way and compose the gross element of earth which exists in the vast expanse of the gross elemental water. Then from the atoms of light arises in a similar way, the gross element of light and exists with its luminosity in the gross water. After this and by the mere thought of God, there appears the embryo of a world out of the atoms of light and earth. God animates

that great embryo with Brahma, the world-soul, who is endowed with supreme wisdom, detachment and excellence. To Brahma God entrusts the work of creation in its concrete details and with proper adjustment between merit and demerit on the one hand, and happiness and misery on the other. The created world runs its course for many years. But it cannot continue to exist and endure for all time to come. Just as after the stress and strain of the day's work God allows us rest at night, so after the trials and tribulations of many lives in one created world. God provides a way of escape from suffering for all living beings for some time. This is done by him through the destruction of the world. So the period of creation is followed by a state of destruction. The process of the world's dissolution is as follows: When in the course of time Brahma, the worldsoul, gives up his body like other souls, there appears in Mahesvara or the supreme Lord a desire to destroy the world. With this, the creative adrsta or unseen moral agency in living beings is counteracted by the corresponding destructive adrsta and ceases to function for the active life of experience. It is in contact with such souls, in which the destructive adrsta begins to operate, that there is motion in the constituent atoms of their body and senses. On account of this motion there is disjunction of the atoms and consequent disintegration of the body and the senses. The body with the senses being thus destroyed, what remain are only the atoms in their isolation. So also, there is motion in the constituent atoms of the elemental earth, and its consequent destruction through the cessation of their conjunction. In this way there is the destruction of the physical elements of earth, water, light and air, one after the other. Thus these four physical elements and all bodies and sense organs are disintegrated and destroyed. What remain are the four kinds of atoms of earth, water, light and air in their isolation, and the eternal substances of akasa, time, apace, minds and souls with their stock of merit, demerit and past impressions. It will be observed here that while in the order of destruction, earth compounds come first, then those of water, light and air in succession, in the order of creation, air compounds come first, water compounds next, and then those of the great earth and light appear in succession.

Check Your Progress 2

Note: Use the space provided for your answer.

1) What are the seven categories?

……

……

……

2) Explain the Atomic theory of Vaisesika.

……

……

……

11.9 BONDAGE AND LIBERATION

The Vaisesika regards bondage as due to ignorance and liberation as due to knowledge. The soul, due to ignorance, performs actions. Actions lead to merits or demerits. They are due to attachment or aversion and aim at obtaining pleasure or avoiding pain. The merits and demerits of the individual souls make up the unseen moral power, the adrsta. According to the law of Karma, one has to reap the fruits of actions one has performed whether they are good or bad according to the karmas one performed. This adrsta, guided by God, imparts motion to the atoms and leads to creation for the sake of enjoyment or suffering of the individual souls. Liberation is cessation of all life, all consciousness, all bliss, together with all pain and all qualities. It is qualityless, indeterminate, pure nature of the individual soul as pure substance devoid of all qualities.

11.10 LET US SUM UP

In this unit we have tried to give central concepts of Nyaya and Vaisesesika. Nyaya is a system of logical realism and atomistic pluralism. Nyaya develops logic and epistemology; Vaisesika develops metaphysics and ontology. In this unit we have explained Nyaya theory of knowledge, causation, physical world, God and the proofs for the existence of God. In this unit relating to the orthodox system of

Vaisesika, we have discussed Vaisesika categories, atoms, creation, destruction, bondage and liberation. We conclude this unit with the Vaisesika conception that liberation is the real state of the soul free from all qualities and it reduces the soul to a mere nothing.

The Nyāya is the discipline of logic, and provides the only sound methodology of philosophical inquiry into the nature of knowledge and the objects of knowledge. It is the means to obtain Right Knowledge (pramā) about the Self and to discover the purpose of life. The only way we can impart our knowledge and experience to others and to elucidate for ourselves their implications for the rest of our lives and also to defend their validity against hostile criticism is by means of logic. The term Nyāya in Sanskrit signifies "going into a subject," — that is, an analytical investigation of the subject through the process of logical reasoning. Vatsyāyana, the classic commentator on the Nyāya-Sūtra, defines it as: "a critical examination of the objects of knowledge by means of the canons of logical proof." The Nyāya is also called Tarka-vidya, "science of reasoning," or Vāda-vidya "science of argument."' The founder of the Nyāya was Gautama (Gotama) who is frequently-referred to in the literature as Akṣa-pāda, "Eye-footed," and Dīrgha-tapas, "Long-penance." In ancient India it was customary to give people nicknames which gave a descriptive characterisation of the individual. Gautama probably received these names from his habit of performing long penances during his periods of study and from the fact that he was customarily seen with his eyes directed toward his feet when walking, (probably due to his deep reflection while strolling). There is considerable argument about the exact date of Gautama but authorities place him about 550 BC., making him almost a contemporary of Buddha. According to tradition, Gautama, the founder of the Nyāya, was born in the village of Gautama-sthāna, and each year a fair is held in this village in his honour on the 9th day of the lunar month of Chaitra (MarchApril). The village is located 28 miles north east of Darbhaṅga. Before Gautama, the principles of the Nyāya existed as an unsorted body of philosophical thought concerning things that can be known and on the means of acquiring such knowledge. Gautama merely formulated the generally accepted principles of the time.

11.11 KEY WORDS

Perception: Perception is a definite cognition which is produced by sense-object contact and is true and unerring.

Inference: Inference is the cognition which presupposes some other cognition.

Comparison: Comparison is called upamana. Comparison is knowledge derived from comparison and roughly corresponds to analogy.

Verbal Testimony: Verbal testimony is defined as the statement of trustworthy person and consists in understanding its meaning.

Cause: Cause is defined as an unconditional and invariable antecedent of an effect and an effect as an unconditional and invariable consequent of a cause.

Padartha: Padartha means an object which can be thought and named.

Dravya: Dravya is the substance. Substance signifies the self-subsistence, the absolute and independent nature of things. Substance is the basis of qualities and actions, actual or potential, present or future.

11.12 QUESTIONS FOR REVIEW

1. Discuss the Nyaya and Vaisesika.
2. Write about the Nyaya theory of knowledge.
3. Discuss the Nyaya theory of causation.
4. Describe Nyaya theory of the Physical world.
5. Write about Nyaya concept of God.
6. Discuss Vaisesika concept of padartha or Category.
7. Write about Vaisesika on Atoms and Creation.
8. Write about the Bondage and Liberation.

11.13 SUGGESTED READINGS AND REFERENCES

- Chatterjee, Satischandra & Dhirendramohan Datta. An Introduction to Indian Philosophy. Calcutta: University of Calcutta, 1968.
- Hiriyanna, M. Outlines of Indian Philosophy. London: George Allen & Unwin Ltd, 1951.
- Hiriyanna, M. Essentials of Indian Philosophy. London: George Allen & Unwin Ltd, 1952.
- Radhakrishnan, S. Indian Philosophy. New Delhi: George Allen & unwin publication, 1983.
- Sharma, Chandradhar. A Critical Survey of Indian Philosophy. Delhi: Motilal Banarsidass Publication, 1987.

11.14 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 11.2
2. See Section 11.3

Check Your Progress 2

1. See Section 11.7
2. See Section 11.8

UNIT 12: JOHN VATTANKY

STRUCTURE

12.0 OBJECTIVES

- Rev. John Vattanky's Life and Work
- Rev. John Vattanky's Philosophical Vision
- What Did Indian Philosophers Believe?
- An Indian creation myth

12.1 INTRODUCTION

Rev. John Vattanky SJ (born 3 July 1931) is a Jesuit priest, belonging to Kerala province, in India. An Indian Philosopher, specializing in Gangesa's Navya-Nyāya, he resides at De Nobili College, Pune. Vattanky is a Professor Emeritus of Jnana-Deepa Vidyapeeth, Pune, India. He has contributed significantly to the growth of Indian philosophy and Indian Christian Theology.

His book on Nyaya Theism has been well appreciated and acclaimed. His work on Gangesa, was favourably commented on by Kanchi Sankaracharya.

12.2 HIS LIFE AND WORK

Professor John Vattanky was born at Palakkattumala, Kottayam in Kerala on 3 July 1931. After his high school studies (in which he stood first in the school) and after preliminary studies in the classics at the Papal Seminary, Kandy, Sri Lanka, he entered the Society of Jesus in 1950. During the course of his studies in the Society of Jesus, he gained a licentiate in Philosophy (1957) and another licentiate in Theology (1964). He was ordained priest in 1963. Then in 1966, he began his specialization in Oriental Philosophies and Religion, at the University of Oxford, England from where he took his M.A. in Oriental Studies with his optionals as Sanskrit and Pali. He went on to University of Vienna to do his Doctorate specializing in Indian philosophy. After his Ph.D. (1974), he was in Trivandrum, Kerala, organizing a Research Centre in Indian Philosophy and Religion.

During this time, he has published several scholarly research articles in standard research journals both in India and abroad. His major book, Gangesa's Philosophy of God was published in 1984 by the Adyar Research Library, Madras and has won the admiration of scholars as well as the award of all India Philosophical Association.

Then he moved on to Jnana-Deepa Vidyapeeth in Pune where he was teaching classical Indian philosophy and Sanskrit.[5] During this time he also developed the Centre for Advanced Indian Studies and continued his researches. He also lectured in various universities in India and abroad. Many times he was visiting professor of Indian philosophy at the Hochschule fuer Philosophie, Munich, Germany.

He has also presented papers at various conferences, national and international. Thus in 1974, he presented a paper at All India Oriental Conference, Kurukshetra; in 1978, gave papers at the University of Kerala and in Sanskrit College, Trippunithara, Kerala; in 1982, he presented a paper at the Faculty of Theology, University of Passau, Germany and at the International Conference on Buddhist studies at Oxford. In 1984, he presented a paper at the International Conference on Comparative Philosophy at Honolulu, Hawaii, U.S.A. In 1985, he presented a paper at All India Philosophical Conference, Hyderabad. In 1986, he presented papers at the University of Munich, at the Oriental Institute, University of Oxford, to the Faculty of Philosophy, University

of Texas, Austin, U.S.A., and to the Faculty of Philosophy, University of Washington, U.S.A. In the same year, he was one of the main speakers at the seminar on the Nyaya System of Indian Philosophy at New Delhi. In 1987, he presented a paper to the Faculty of Humanities at Thammasat University, Bangkok. In the same year he was a Visiting Professor at Santa Clara University, U.S.A.; he also gave a lecture on 'The Analytical Tradition in Indian Philosophy' to the Faculty of Philosophy of same University.

In 1993, his book 'Development of Nyaya Theism' was published by the Intercultural Publications, New Delhi. In 1995 his book 'Nyaya Philosophy of Language' was published by the Indian Book Centre, Delhi. In the same year he also organized a National Seminar on Indian Philosophy of Language at Pune and presented a paper on 'Indian Hermeneutics'. In 1998 he was a Visiting Fellow at Clare Hall, Cambridge. In the same year he lectured at the Shimla Institute of Advanced Study on 'Nyaya System of Philosophy an Important Aspect of Indian Culture'. Further in the same year he lectured at Santiniketan on "Nyaya Theism and Nyaya Hermeneutics', participated in a seminar at Dunlod, New Delhi and presented a paper on Nyaya. In 1995 he was a visiting Life-member of Clare Hall, University of Cambridge, England. In the same year he delivered lectures for the Refresher Course for University teachers in Lucknow. In 2000, he gave a lecture at a Seminar on Nyaya Logic at the International Centre, Delhi. In the same year he also gave lectures at the Institute of Indology and the Faculty of Theology, University of Tübingen, Germany, at the University of Santiniketan and participated in the conference on the dialogue of civilizations at India International Centre, New Delhi and presented a paper on 'Argumentation in Nyaya'. In 2001, he was a visiting Life Member at Clare Hall, University of Cambridge, England. In 2002, he participated in the International conference on Syriac Studies at Kottayam, Kerala.

In 2003, he was a visiting Life Member at Clare Hall, University of Cambridge, England; in the same year he also gave a lecture on 'Sankara and Christian Theology' at the Faculty of Theology, University of Tübingen, Germany. Further, in the same year he participated in the

International Philosophy Conference at Istanbul, Turkey and presented a paper on "Nyaya and Buddhist Logic'. In 2004, he was a visiting Scholar at Campion Hall, University of Oxford; in the same year he also participated in an International Conference on Theology at Beirut and presented a paper on Sankara and Eastern Theology'. In 2005, he participated in an International Conference on Eastern Theology in Beirut and presented a paper on Sankara and Apophatic Theology'. Further in the same year he presided at the inaugural session of a seminar organized by the Indian Council of Philosophical Research, Imphal, Manipur and afterwards presented a paper on 'Word and Meaning'; he was also a visiting Scholar at Campion Hall, University of Oxford. In 2006 he participated in the International Conference at Bialowieza, near Warsaw, Poland and presented a paper on 'Theism, the Culmination of Nyaya Logic'; in the same year he was also a visiting Scholar at Campion Hall, Oxford. In 2007, he participated in an International Conference on Nyaya and Formal Logic at Jadavpur, Kolkata and presented a paper on 'The Integral Humanism of Nyaya'; in the same year he was also a visiting Scholar at Campion Hall, University of Oxford. In 2008, he presented a paper on 'Ephrem and Sankara; a Dialogue Between Two Creative Thinkers' at an International conference in Granada, Spain. In 2009, he participated in the National Conference on Logic and its Application at the Mathematical Institute, Chennai. In 2010, he participated in the International Conference on Syriac Theology at SEERI, Kottayam, and presented a paper on 'Understanding Christian Eschatology Against the Background of the Thought of Ephrem and Sankara'.

Professor Vattanky is one of the much sought after resource persons in refresher courses for University lecturers from all part of India. He has thus lectured for such groups in Lucknow, Pune, Santi Niketan and so on. He was also a visiting scholar at the Centre for Advanced Studies in Simla. He participates in various seminars on Classical Indian Philosophy.

Although the Centre for Advanced Indian Studies directed by him is materially a small institute, it pursues intensively research in one of the most difficult systems of Indian thought- the Nyaya system which has a

history of more than twenty centuries. The Institute specializes in what is called NavyaNyaya which traditionally is dated from 13th Century to the present day. The Institute has already translated and interpreted important sections of authoritative works on NavyaNyaya and these works have won the admiration of scholars working in the field.

12.3 HIS PHILOSOPHICAL VISION

When one has studied the foundational texts of a school of Philosophy, naturally one's own Philosophy would also be much influenced by these works. It was a fortunate set of circumstances that helped him to delve deeply into some of the basic texts of Nyaya. In particular, he analysed each sentence and even each word in the Isvaravada section of Gangesa's Tattvacintāmaṇi. The wider implications of the explanations and argumentations developed in this text began to dawn upon him quietly and consistently. Why is it that according to Nyaya logic, it is possible to establish the existence of God while in the Buddhist logical system it is not possible to establish the existence of God? An adequate answer to this question lies in the concept of knowledge of the different systems leading to different kinds of understanding of human beings themselves. Thus Nyaya system has as horizon a theory of knowledge which renders possible the discourse about God; it could even be asserted that according to Nyaya, the Absolute becomes the horizon of all knowledge and therefore also of all human activities.

Such an understanding of Nyaya helped him to develop his own philosophy. A human being can be fully understood only if his metaphysical relation with the Absolute is accepted as a constitutive principle of his very being. In other words, an integral humanism calls for Transcendence. Such a view naturally rejects a purely empiricist understanding of human being. This means that the fullness of being human can be achieved only in and through the Transcendent. This is because the Transcendent remains not only at the theoretical level but at the actual existential plane the centre of human beings and hence it invests human life with a unique value and significance not confined merely to the world that is experienced by the senses. However this world is not denied; it has its value. It is in and through this world that

Transcendence operates. Therefore, being human is being fully immersed in this world and fully in the Transcendent. Hence to present a humanism without placing the transcendent at its centre is to impoverish human beings; it will be the greatest injustice to them.

But what in concrete is the nature of this Transcendence? In order to grasp this and to develop his original view of it, the Advaita Vedanta of Sankara especially as interpreted by the late Richard De Smet has been very helpful to him. De Smet rejects the all too common acosmic interpretation of Sankara and asserts that the true nature of the Supreme Brahman as person, ultimate cause, capable of love and grace. Therefore, the highest Brahman is more than a vast ocean of pure consciousness, but in such a way that the simplicity, plenitude and transcendence of the divine are in no way compromised. It is clear that here non-duality (advaita) is read as a doctrine of creation rather than as a teaching of illusionistic monism. The Supreme Brahman is also a person in a pre-eminent sense. The concept of person in itself does not involve any limitation and hence Brahman considered even in the strict advaita perspective of Sankara's Vedanta is most properly and eminently personal, indeed the Super-person.

This Brahman or God can be described in many ways, but chiefly in the negative, the superlative, the world-relational, the ego-relational and the essential manner. The negative description differentiates God from all other reals by stating that it is not so, it is not so (neti neti). Such description teaches us that no term or concept can express God properly because the expressive power of terms and concepts is restricted to the empirical and hence it denies all idea of finitude in God. Asserting absolute transcendence of God, saving our mind from all temptations of pantheism, this description leads us to apophatism. The superlative portrayal of God accounts for the negative description. Because God is Fullness of Being, supreme in every regard He is unlike anything finite. God is the Fullness (purna) of all illimitable perfections; he is the very fullness; He is intensive fullness, not fullness by addition. He is thus the most desirable, the supreme value. He is homogeneous goodness (ekarasa). We have no example of such fullness in our experience. Yet all the beings we know directly have a relation of similarity to God and

they can enrich our idea of God. The world-relational definition of God asserts that he is the sole cause of the universe. God provides both the reality and the orderly structure and course of the universe. But this does not imply any change in God; He just gives reality and order from its own fullness. Such a causality of God is so universal and ontologically complete that it is the innermost self of every single entity. The ego-relational description of God operates with reference to the knowing individual self. Each one knows from one's own experience that the ego is agent, enjoyer and knower, but its tadatmya relation with God is not known. The fundamental nature of the self is its relationship with God. And God being the innermost self of man, the former imparts his luster to the individual even to his body and organs especially the intellect. The final description of God is essential. God's essence, is truth, knowledge and being infinite. The two terms reality and knowledge together indicate that in God there is no distinction or composition.

In Sankara the external world is described as upadhi, translated usually as limiting adjunct. But nobody really explains what it really means. He interprets it with reason as symbol; the world is a symbol of God - this is the thought of the only real poet theologian in the Christian tradition, St. Ephrem, a fourth-century saint who lived and worked in Nisbis and then in Edessa. The Supreme reality is communicated to us in the universe which is a vast assembly of symbols singing the goodness of God and this is his philosophy. Infinite are the possibilities of developing this line of thought inspired by the intuitions of Sankara and Ephrem.

12.4 WHAT DID INDIAN PHILOSOPHERS BELIEVE?

Popular writers about Christianity sometimes maintain that only modern fundamentalist Christians take the Biblical creation story literally; no one in pre-modern days, they say, ever thought of doing so. Karen ARMSTRONG represents this view in various publications, in one of which she states (2005b): ‘Until the advent of the modern period, nobody would have regarded the six-day creation story [of the Bible] as a literal, historical account.’1 She is not the only one to maintain such a position. Some scholars of religion hold quite generally that myths were not taken

literally in earlier days. Ninian SMART (1996: 138), to mention but one example, has the following to say about myths in general and about the way they are understood at present and in the past: '[It] seems … that we are moving out of the age of what may be called "fanciful" myth into that of "factual" myth. I do not mean by this that the more fanciful myths have not been believed in some sense to be factual: describing reality. But now there is a more earthbound understanding of what is factual. So Adam and Eve have to be real persons: or if they are not they have to be symbolic representations of a real human condition that can be described metaphysically or existentially.'

And again (SMART (1996: 161)): 'As we move towards another century and into it, the divergence, considered phenomenologically, between the old myth and the new history tends to fade away. Legends of Moses and Krishna and the Buddha and Confucius tend to solidify. Since historicity is regarded as a plus, there is a trend towards thinking of the legendary as historically real. In any case, it becomes a problem to distinguish between the two.' These passages suggest that, at least according to Smart, there was a time when myths were not understood to be true in an earthbound factual manner, not historically real. Unfortunately he does not elaborate or clarify this suggestion, and nor does he give any specification as to the date or period during which the important transition toward the new understanding of myths took place. Why should such a change take place? And what is it that supposedly pushes 'us' to change our understanding of myths? Neither Smart nor Armstrong propose answers to these questions. Some support for the position of Smart and Armstrong may be derived from a well-known article by Raffaele PETTAZZONI (1954 /1984), whose original Italian version came out in 1948. It points out that many societies described by ethnographers distinguish between 'true stories' and 'false stories', with creation myths typically belonging to the 'true stories'. However, as PETTAZZONI (1954 /1984: 102) points out, 'myth is true history because it is sacred history, not only by reason of its contents but also because of the concrete sacral forces which it sets going.' The truth of myths 'has no origin in logic, nor is it of a historical kind; it is above all of a religious and more especially a magical order' (p. 103). These myths

remain ‘true’ as long as the world they are part of remains by and large the same. However, PETTAZZONI (1954 /1984: 108) observes, ‘a day will come when the myths of beginnings too will lose their “truth” and become “false stories” in their turn … This will occur when their world, built up on the ruins of the first one, collapses in its turn to give place to a later and different structure.’ Pettazzoni’s remarks are interesting, but strictly speaking they only concern ‘truth’ in inverted commas. If I understand them correctly, ‘truth’ in inverted commas may be paraphrased with the help of some such word as ‘applicability’. Pettazzoni’s remarks leave open the question whether or not members of the societies involved literally believe even their ‘true’ stories (‘true’ in inverted commas). They suggest that these people may normally not bother about their ordinary truth, they may never think about it. The question whether they believe their stories may therefore be misplaced, inapplicable in the situation.

This reflection is related to a known difficulty in anthropology, whose description I borrow from the philosopher Daniel C. DENNETT’s book Breaking the Spell (2006: 161): ‘Many anthropologists have observed that when they ask their native informants about “theological” details—their gods’ whereabouts, specific history, and methods of acting in the world—their informants find the whole inquiry puzzling. Why should they be expected to know or care anything about that? Given this widely reported reaction, we should not dismiss the corrosive hypothesis that many of the truly exotic and arguably incoherent doctrines that have been unearthed by anthropologists over the years are artefacts of inquiry, not pre-existing creeds. It is possible that persistent questioning by anthropologists has composed a sort of innocently collaborative fiction, newly minted and crystallised dogmas generated when questioner and informant talk past each other until a mutually agreed-upon story results. The informants deeply believe in their gods—“Everybody knows they exist!”—but they may never before have thought about these details (maybe nobody in the culture has!), which would explain why their convictions are vague and indeterminate. Obliged to elaborate, they elaborate, taking their cues from the questions posed.’ The suspicion that some myths may be artefacts of inquiry rather than pre-existing creeds

gains in interest in the light of the recent and much discussed claim that the Pirahá, a people of Amazonian hunter-gatherers, have no creation myths at all. 3 It may not be justified to extrapolate directly from anthropological literature to societies with sophisticated intellectual traditions, but it may make us aware of possible difficulties. These latter societies may preserve ancient myths by means of writing or refined mnemonic devices well beyond their sell-by date. How do educated readers or listeners consider them? Scholars of classical Greece have repeatedly addressed the question whether the ancient Greeks believed their myths. The question is complicated and cannot, it turns out, be answered with a simple yes or no.4 It is yet justified to ask the question, if for no other reason than that classical Greece witnessed the coming into being of a tradition of critical reflection. It would certainly be interesting to know whether there were issues that were considered beyond questioning, and the realm of myths might conceivably be one of those.

This way of formulating the problem shows that the exact meaning of the word 'myth' is of little importance for its solution. It does not matter here whether myth is a meaningful or useful concept in and outside ancient Greece, nor whether the Greeks themselves had a concept corresponding to it. All that counts here is that critical reflection in ancient Greece was sooner or later confronted with traditional forms of knowledge, usually presented in narrative form. Was this confrontation experienced as one by the individuals involved? And what was its outcome? These questions are interesting, even if—as appears to be the case—their answers are multiple and complex. Some thinkers point out that Judeo-Christian religion distinguished itself, already in Antiquity, from Greek and other religions in that reflexive thought about myth became an integral part of it. The requirement of truth in religion, it is claimed, pervades all of ancient Christian thought.

This, if true, would distinguish the Judeo Christian tradition from other religions. I have already pointed out that it is not clear whether or to what extent myths—I use the word again in its broadest sense—are believed to be true in societies which have no strong tradition of critical reflection. One can easily imagine a society many of whose members, even though

thoroughly familiar with its myths, have never asked themselves the question whether they are true or not. One thing seems however clear. In a society in which there is a tradition of critical reflection, at least some members will sometimes ask this question. Some of them will answer in the positive, and hence be conscious believers; others will decide that some of these myths, or all of them, are not, or probably not, literally true.

12.5 AN INDIAN CREATION MYTH

Classical India, like classical Greece, had many myths, and a tradition of critical reflection that expressed itself primarily in its philosophies. A number of thinkers, many of them belonging to different philosophical schools, were engaged in an ongoing debate, in which each tried to improve his own system in the light of the criticism he received or might receive from others. The consequences of this debate were far-reaching, and various school doctrines appear to have been adopted, even invented, for no other reason than to improve the inner coherence and consistency of the different philosophies.

What attitude did these philosophers have with regard to their myths?7 This question is important, for it may enable us to understand these thinkers better. For when classical Indian philosophers defend their positions against each other, they normally defend the philosophical aspects of their beliefs, leaving other aspects—such as the 'mythical' ones—out of the discussion. Yet there is at least one myth which is so often referred in the surviving literature that some conclusions can be drawn about it. This myth is particularly important in the Brahmanical context. It is a creation myth which tells us not only about the creation of the world, but also about that of the different classes (varòa) in human society.8 It is important for Brahmanism, for the division of society into these four classes is the cornerstone of their vision of society. No doubt for this reason it is told or referred to in many texts, not always in exactly the same form. The story finds its classic, and as far as we know earliest, exposition in the Puruša-sûkta of the Åg-veda (RV 10.90). This hymn recounts how the world and its inhabitants came about as a result of a sacrifice in which the primordial giant, Puruša, is dismembered. The

hymn does however more: it also explains how the proper hierarchy of human beings came about.9 The for us most important parts read, in the (slightly adjusted) translation of Wendy DONIGER O'FLAHERTY (1983: 30–31): ' The Man has a thousand heads, a thousand eyes, a thousand feet. He pervaded the earth on all sides and extended beyond it as far as ten fingers. It is the Man who is all this, whatever has been and whatever is to be. He is the ruler of immortality, when he grows beyond everything through food. … When the gods spread the sacrifice with the Man as the offering, spring was the clarified butter, summer the fuel, autumn the oblation. … When they divided the Man, into how many parts did they apportion him? What do they call his mouth, his two arms and thighs and feet? His mouth became the Brahmin; his arms were made into the Warrior, his thighs the Common man, and from his feet the Servant was born.'

It is not obvious how exactly the composer and early listeners of this hymn believed this process to have taken place. It may not be all that difficult to imagine such a sacrifice, even though its size exceeds that of the world. However, some of the details pose serious challenges to our power of imagination. How, for example, does one use spring as clarified butter, summer as fuel, autumn as fuel in a sacrifice? And there are serious problems related to the division in which the primordial giant's mouth became the Brahmin, his arms the Warrior (râjanyà), his thighs the Common man (vaícœya), and his feet the Servant (œûdrá). These four classes of human beings—this seems to be the first mention of the four varòas in Indian literature—are referred to in the singular. Do we have to conclude that just one Brahmin, one Râjanya, one Vaicœya and one Œûdra were created at that time? In that case one could wonder where they found partners so as to procreate. Should we perhaps understand the text differently, in the sense that all Brahmins were created out of the mouth of primordial Man, all Râjanyas from his arms, all Vaicœyas from his thighs, and all Œûdras from his feet? It might be objected that myths should not be read like this. No cosmogonic myth, it could be maintained, was ever understood in such a literal fashion. It cannot be questioned or analysed in the way a modern scientific theory is subjected to questioning and analysis. Myths have to be interpreted and should not

be taken at face value. When a Bororo individual says 'I am a parakeet' this must be understood to mean—according to some anthropologists—'As a man, I am to other men what a parakeet is to other birds.'10 With regard to the Puruša-sûkta, M. Sunder Raj points out that it 'is an allegory, a poetic vision, and is not to be taken in a literal sense.' 11 The hymn to Puruša is, in the words of Louis RENOU (1965: 8), 'the major source of cosmogonic thought in ancient India'; elsewhere he says (1956: 12): 'Il n'y a guère de poème cosmologique de l'Atharvaveda où l'on ne retrouve quelque allusion voilée au mythe du Géant sacrifié et au schéma évolutif qui en résulte … C'est encore le thème du Géant qui sous les traits de Prajâpati 'le seigneur des Créatures' ressurgit dans les Brâhmaòa et en commande la plupart des avenues.' Jan GONDA (1968: 101) calls it 'the foundation stone of Višòuite philosophy'. Especially the part concerning the creation of the four main divisions of society, the four varòas, has been taken over in numerous texts belonging both to the Vedic and to the classical period. We find it, for example, in the Taittirîya-saôhitâ (7.1.1.4–6), the Mahâ-bhârata (3.187.13; 8.23.32; 12.73.4–5; 12.285.5–6), the Râmâyaòa (3.13.29–30), but also in the first chapter of the Manu-småti.

The Lord, we there read, created, 'so that the worlds and people would prosper and increase, from his mouth the Brahmin, from his arms the Kšatriya, from his thighs the Vaicœya, and from his feet the Œûdra.'12 Elsewhere the same text refers to this myth as common background knowledge, used as an alternative way of speaking about the four varòas.13 The Puruša-sûkta remains important in later literature and practice.14 These and many other references to the myth of the Puruša-sûkta do not allow us to decide with certainty whether the authors concerned took this myth literally. They do however show that this myth remained 'true' in Pettazzoni's sense in remaining relevant to a social situation that continued to prevail, or that should prevail according to those primarily concerned, the Brahmins. But did they think that the myth was true in the sense of corresponding to reality? The answer, it seems, was yes for at least some Brahmanical thinkers. There is indeed evidence that Indian thinkers, or at least some of them, did take the myth of the creation of the four varòas out of the initial giant quite seriously,

i.e. literally—as being literally true. Part of the story is retold in the Padârtha-dharma-saôgraha, also known as Praœastapâda-bhâšya, which is the classical surviving treatise of the Vaiœešika philosophy, written by Praœasta, alias Praœastapâda. The passage concerned reads: 'When in this way the four composite elements have come into existence, a great egg is formed, caused solely by God's meditation / volition, out of atoms of fire with an admixture of atoms of earth (i.e. gold). In it [God] creates Brahmâ, with four faces like so many lotuses, the grandfather of all worlds, and all worlds; he then enjoins him with the duty of creating living things. That Brahmâ, thus enjoined by God, and endowed with abundant knowledge, complete absence of passion and absolute power, knows the effects of the deeds of living beings; he creates the Prajâpatis, his mind-created sons, with knowledge, experience and span of life in accordance with their [past] deeds; [he also creates] the Manus, Devas, Åšis and groups of Pitås, the four varòas out of his mouth, arms, thighs and feet [respectively], and the other living beings, high and low; he then connects them with dharma, knowledge, absence of passion and power in accordance with their residue of past deeds.' In order to correctly evaluate this passage, it is important to realise that the Padârtha-dharma-saôgraha is no book of stories and myths, and nor is it meant to be read as literature. Quite on the contrary, it is a very serious treatise about the constitution of reality, of which it presents a coherent and systematic explanation. It is hard to believe that any passage of this serious work, including the one just cited, was not meant to convey reality, not metaphorically, but in a most literal manner. It is true that the contents of this passage may not have been part of the Vaiœešika philosophy during the time preceding Praœasta. There are reasons to believe that the very notion of a creator God may have been introduced into the system by this author, and that he borrowed this notion from the religious current to which he may have belonged, that of the Pâœupatas. This does not, however, mean that this notion is to be taken less seriously than the remainder of the Padârtha-dharmasaôgraha.

The explicit mention of the creation of the four varòas out of the mouth, arms, thighs and feet respectively of the creator in a work as serious and reality-oriented as Praœasta's Padârtha-dharma-saôgraha strongly

suggests that at least one participant in the tradition of critical reflection accepted this myth as literally true. It seems likely that there were other Brahmanical intellectuals of that period who did the same.

As is well known, the Buddhists did not accept the Brahmanical division of human society into four classes, nor did they accept the myth that lent credence to it. A number of Buddhist authors criticise the very same myth which Praœasta (and probably many others with him) explicitly accepted, the myth that the four varòas were originally created out of the mouth, arms, thighs and feet of the original being. They do so by showing that it is incoherent, or that it has implications which even the Brahmins would not be willing to accept.We find such criticism already in the Aggañña-sutta of the Dîgha-nikâya. The Brahmin Vâseþþha here reports the position of his fellow-Brahmins, according to whom 'only the Brahmins are the real sons of Brahmâ, born from his mouth, born from Brahmâ, produced by Brahmâ, heirs of Brahmâ.'The Buddha responds that they maintain this position, 'forgetting what is old' (porâòaô assarantâ). This expression has been variously interpreted by the commentators: some speak of an old tradition, others of ancient history. The context however favours a third interpretation: these Brahmins forget the past, that is to say, the relatively recent past of their own birth. This is shown by what follows. According to the Buddha it is undeniable that the wives of Brahmins (brâhmaòânaô brâhmaòiyo) have their periods, become pregnant, give birth and feed; in spite of being thus born from a human womb, the Brahmins maintain that they are born from Brahmâ. In doing so, these Brahmins insult (abbhâcikkhanti) Brahmâ. This criticism is obviously based on the most literal interpretation of the Brahmanical myth. The claim of the Brahmins of being born from Brahmâ is in conflict with their birth from a human mother. In other word, the Brahmins are credited with the belief of having been born, at the beginning of their present life, from the mouth of Brahmâ. A somewhat more recent text, the Vajra-sûcî, proceeds in a similar manner. One finds here the following argument:

'There is another defect [in your proposition]. If the Brahmin is born from the mouth, where is the Brahmin woman born from? Certainly from the mouth. Alas! Then she is your sister! So, you do not regard the

convention of licit and illicit sexual intercourse! But that is extremely repugnant to the people of this world.' The Œârdûlakaròâvadâna states essentially the same: 'If this world has been created by Brahmâ himself, the Brahmin woman is the sister of the Brahmin, the Kšatriya woman the sister of the Kšatriya, the Vaiœya woman [the sister] of the Vaiœya, or the Œûdra woman [the sister] of the Œûdra; in case she has been created by Brahmâ, [a woman of the same class], being a sister [of her husband], will not be a suitable wife.' This is not the place to investigate how the Vaiœešikas answered, or might have answered, the criticism of the Buddhists. It must here be sufficient to note that the three classical commentaries on Praœasta's Padârtha-dharma-saôgraha—the Vyomavatî, the Nyâya-kandalî, and the Kiraòâvalî—dedicate in this connection long discussions to the question as to the existence of a creator God, but do not say a word about how this particular myth is to be interpreted so as to avoid contradictions. The discussion stays on a highly abstract, 'philosophical', level, where inferences and logical analyses have their place. The details of the myth, on the other hand, do not receive attention.

Note that a number of Jaina texts, too, criticise the myth of the primordial giant, along with other Brahmanical myths. These texts are part of what may have been a micro-genre of Jaina literature that uses satire to make fun of these stories. JeanPierre Osier has recently studied four of these texts that have survived: two versions of the 'Ballad of the rogues' (Dhûrtâkhyâna, Dhuttakkhâòa)—one in the Cûròi of the Niœîtha-sûtra, the other one by Haribhadra—and two 'Examinations of Dharma' (Dharma-parîkšâ), by Harišeòa and Amitagati respectively. What can we conclude from the above? One gets the impression that those in the Brahmanical tradition were inclined to accept the creation story considered (and other myths) literally, in spite of the difficulties this entailed. One might be tempted to conclude, with Ninian Smart and Karen Armstrong, that perhaps in those premodern days no one would dream of understanding a myth literally. This position is however undermined by the fact that the Buddhists (and the Jainas) had no difficulty whatsoever to interpret the myth so literally that they could make fun of it. They had no difficulty imagining all Brahmins being

born, literally, from the mouth of the primordial giant, and they drew absurd consequences from this. But if the Buddhists could interpret this myth literally, so could the Brahmins, or at least those Brahmins who had trained themselves as philosophers and debaters. Some of these Brahmins may have silently discarded a literal interpretation of the myth, but some, among them apparently Praœasta, did not, and included the myth, literally understood, in their analytical vision of the world.

Check Your Progress 1

Note: Use the space provided for your answer

1. Discuss the Rev. John Vattanky's Life and Work.

……

……

……

2. Discuss Rev. John Vattanky's Philosophical Vision.

……

……

……

3. What Did Indian Philosophers Believe?

……

……

……

4. Discuss an Indian creation myth.

……

……

……

12.6 LET US SUM UP

As is well known, a given cognition must meet two conditions in order to be termed a '(direct) perception' (pratyakša) and thus a means of valid cognition: first, it must be free of any intellectual / linguistic content whatsoever (kalpanâpoðha); second, it must be non-erroneous (abhrânta). This holds true of the so-called 'perception of mystics' (yogi-pratyakša). According to ordinary understanding (loka, loka-prasiddhi), a yogin is

one who devotes himself to psychic concentration (samâdhi) or mental one-pointedness (cittÎkâgratâ); according to (Buddhist) treatises (œâstra, œâstra-sthiti), a yogin is one who is endowed with tranquillity (œamatha, i.e. samâdhi) and discernment (vipaœyanâ, i.e. prajñâ), the latter being also described as the 'discrimination' of the (true) reality (*tattva-pravicaya?). Since mystics' cognition has a nearly endless mental cultivation (bhâvanâ) for its cause (°,maya), it is non-conceptual (vidhûta-kalpanâ-jâla, akalpa, avikalpaka) and therefore presents a vivid or distinct image of its object. The first necessary condition is thus met. But contrary to other types of meditative experiences (aœubhâ, påthivî-kåtsnâyatana etc.) or to dream-images, which present a vivid picture of an unreal (abhûta) object, the mystics' cognition Dharmakîrti describes is reliable / non-belying (saôvâdin, avisaôvâdin), i.e. bears upon a real (bhûta) object. Cintâ-mayî prajñâ is the factor Dharmakîrti holds to be responsible for a cognition's meeting the second defining condition and thus being a pramâòa. In PVin 1, p. 27.9–11, Dharmakîrti presents us with the following sequence of cultivation (bhâvanâ-krama55): 'The yogins cultivate objects after they have [first] grasped [them] through a cognition born of listening [to treatises that are favourable to cultivation], and [then] ascertained [them] through a [cognition] born of reflecting [upon them] by means of reasoning (yukti) [, i.e. by means of pramâòas; of these yogins,] the [cognition] which, at the completion of this [cultivation], appears as vividly as in cases such as fear [or sorrow, and hence is] non-conceptual [but also] has a true object [because it bears upon an object that has been formerly ascertained by pramâòas], this is also the pramâòa [that consists in direct] perception.' Here, yukti-cintâ-maya ('born from reflection by means of reasoning') already points to Dharmakîrti's indebtedness to the Yogâcâra / Sautrântika interpretation of cintâ-mayî prajñâ /cint(an)â. Dharmottara's explanations, which clearly borrow from the AKBh, confirm this impression: whereas œruta-maya is commented upon as 'having for its cause the hearing of treatises that are suitable for /conducive to mental cultivation', yukti-cintâ-maya is explained as 'reflection (cintâ), i.e. examination (nidhyâna) by means of reasoning (yukti), i.e. by means of pramâòas.' According to Dharmakîrti, the objects of the yogin's perception are bhûta or bhûtârtha,

'real', which Dharmottara comments upon as 'grasped by means of a pramâòa.' Similarly, the reason why this perception is reliable / non-belying is, according to Jñânacœrîbhadra, that 'it cognises an object that has been [previously] determined ([b]Ÿag) by means of reasoning.' It is thus clear that the reliability of the yogin's perception rests on the fact that its objects have been submitted to a rational analysis carried out by means of pramâòas. As an example of such objects, Dharmakîrti refers his reader back twice to (the vision of) the Noble Truths (ârya-satya) as he has ascertained (niròîta, gtan la pheb pa) them in his PV. Dharmottara adduces the same example, whereas all of Dharmakîrti's commentators interpret the latter's use of prâk ('previously') as a reference to the satya-vicâra-section of PV 2. Other examples are Prajñâkaragupta's para-loka and Devendrabuddhi's impermanence (anityâdi).

12.7 KEY WORDS

Anityâdi: Impermanence.

Yukti: Means of reasoning.

12.8 QUESTIONS FOR REVIEW

1. What is the Rev. John Vattanky's Philosophical Vision?
2. What Did Indian Philosophers Believe?

12.9 SUGGESTED READINGS AND REFERENCES

- Vattanky, John. 1993. Development of Nyaya theism. New Delhi: Intercultural Publications.
- Vattanky, John, and Gangesa. 1984. Gangesa's philosophy of God: Analysis, text, translation, and interpretation of Isvaravada section of Gangesas Tattvacintāmaṇi with a study of the development of Nyaya theism, Adyar Library series. Madras: Adyar Library and Research Centre.
- See also Vattanky, John, Bhattacarya Visvanatha Nyayapañcanana, and Dinakarabhatta. 1995. Translation and interpretation of

Karikavali, Muktavali, and Dinakari. 1st ed, Sri Garib Das Oriental series no. 187. Delhi: Sri Satguru Publications.

- Handbook, Jnana-Deepa Vidyapeeth, Pune, 2007.

12.10 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 12.2
2. See Section 12.3
3. See Section 12.4
4. See Section 12.4

UNIT 13: ŚRĪHARṢA 1

STRUCTURE

13.0 OBJECTIVES

After this unit we can able to know:

- To know about the Śrīharṣa
- To discuss the Method
- To know the Epistemology

13.1 INTRODUCTION

For a broader philosophy of dialogue, the project I have been working on for the last five years, a significant chapter is a dialogue and its parameters, and sometimes a lack thereof, between the classical Hindu philosophers and their Buddhist counterparts. Reading classical philosophy, in this project, shifts a focus from content to the methods within, with an intent to learn lessons from the classical thinkers about broadening the issues of argument. Even more crucial than that, is finding the ground principle of discord, that what sustains a dialogue

even when no party is willing to agree upon a single category. Classical Hindu Buddhist dialogue can be summed up in three phases: 1. The phase of mutual attraction and appropriation (pudgalavada and ajativada, for example), 2. The phase of mutual exclusion (Nyāya and Mīmāṃsā rejection of Madhyamaka and kṣaṇabhaṅga arguments or Dharmakīrti's analysis of pramāṇa), and 3. The phase of reconciliation while recognizing difference (as in the case of Śrīharṣa). Although one can read Śrīharṣa along the lines of Gauḍapāda and argue that he belongs to the romantic phase of cultural dialogue, that would be wrong for two reasons: this is historically incorrect, as the early romantic era comes to an end around the time of Śaṅkara, and this would also be textually incorrect, as Śrīharṣa demonstrates a keen awareness of differences and is not dwelling in the nostalgic middle ground. In the cosmopolitan era of Śrīharṣa, it seems that the Hindu intelligentsia was evolved enough to embrace Śrīharṣa as one of the giants, as one of the path-makers in Advaita (with his text being considered one among three major prasthāna texts) even though Śrīharṣa openly admires Buddhist philosophers and appears more in congruence with them than with the Nyāya philosophers. For example:

1. Śrīharṣa draws the distinction between the Buddhist philosophers and the Advaita Vedantins in a single point that the Buddhists consider all the categories as indeterminable whereas the Advaitins maintain that all except for consciousness (vijñāna) is indeterminable (literally, distinct from being and non-being). There are two noteworthy remarks upon this statement: One, he uses the term vijñāna to denote to the absolute consciousness of the Advaita Vedanta at the cost of prajñāna, caitanya, or even brahma. Note that the Advaitins during his time had been accused by their counterparts as being pseudo-Buddhists and the echo of Vijñānavāda is unavoidable. Two, when Śrīharṣa cites Laṅkāvatāra, his language is honorific, as he addresses the Buddha as Bhagavān.
2. 2. When rejecting the definition of veridical cognition, Śrīharṣa cites Dharmakīrti's position, and utilizes the manner in which he presents this argument, alongside his endorsement of the argument, and these are examples of the way he uses his polemics: etena

prāptyādiyogyatā avisaṃvāda ity api nirastam | durābādha iva cāyaṃ dharmakīrteḥ panthā ity avahitena bhāvyam | p. 165 in Caṇḍīprasāda Śuklā edition. “With this, even what [is] defined as contradictory and has the fitness of being accessible etc. is also rejected. This argument of Dharmakīrti is not accessible to the less intelligent [or less educated] people, something of which one also needs to be attentive.

3. 3. In another account, Śrīharṣa rejects a Nyāya position, arguing that apasiddhānta, or contradictory to the discipline, does not constitute nigrahasthāna, or the ground for defeat. What makes his rejection interesting is, Śrīharṣa initiates this discussion with the statement, uktañ ca saugataiḥ - na hi śāstrāśrayā vādā bhavantīti nāpasiddhānto nigrahā-dhikaraṇam iti | Or as the followers of the Enlightened One have said: “Debates do not rely on one’s own discipline and therefore having the argument that contradicts one’s discipline does not amount for the ground for defeat.” This is a wellknown position of Dharmakīrti. Śrīharṣa in here rejecting Udayana’s argument for the framework for a debate by borrowing the argument from Dharmakīrti.
4. 4. When establishing the reflexivity of consciousness, Śrīharṣa presents an argument that even the entities cannot be established if consciousness is not considered as reflexively established. The argument he presents is, seyam, apratyakṣopalambhasya nārthadṛṣṭiḥ prasiddhyati iti | Or the argument continues, if consciousness were not to be directly apprehended, the perception of objects cannot be confirmed either. This is a line from the Pramāṇavārttika of Dharmakīrti. What is intriguing is that Śrīharṣa not only cites this argument to buttress his thesis, but he also he does not feel the need to make a distinction that this line of reasoning is coming from the Buddhist school. Although this may not sound strange to today’s audience, this is something unique if we go to the medieval India and analyze the scholastic debate.

Śrīharṣa: A Svātantrika or a Prāsaṅgika

In my previous work, I have addressed that Śrīharṣa evades the Nyāya maxim that for entering a logical debate, one must define the categories

and provide evidence for such definitions. "Project Śrīharṣa" can be underscored as a project of dismantling the definitions, primarily the definitions given by Udayana. Śrīharṣa demonstrates, mostly by relying on reductive reasoning, that all definitions lead to absurdity, and in that regard I have also pointed out that Śrīharṣa is indebted to Nāgārjuna for his philosophical methods in this regard. Specifically, Śrīharṣa's rejection extends to demonstrating that all the relationships are established between dialectical process and the veridical means of justification. Śrīharṣa, as I have argued, rejects the argument that the system of justification is intrinsically inseparable from the dialectical practice (or because the system of justification overlaps the dialectical practice, the entities that we can see are always the entities that we can also touch), as the lack thereof, has not precluded Nāgārjuna from entering the debate. There is no causal relationship, he argues, between the system of justification and dialogical process. This leaves the complex epistemic system applied for the analysis of veridical knowledge open for questioning. In other words, dialogue precedes the parameters for a dialogue, and it functions in the open space for questioning the dialogue itself. In this sequence, Śrīharṣa points out that there are the fallacies of circularity and regress in relying on the means of justification. Circularity because P needs to be a veridical means of cognition (pramāṇa) in order to ground S, but only by grounding S, does P become a pramāṇa. Regress results because P grounds S and O grounds P ad infinitum. This approach leads eventually to approve the strategy of Nāgarjuna: "Just as direct perception is empty [of self-nature], for the reason that all the entities are empty [of self-nature], so also are inference, analogy, and testimony empty [of self-nature], for the [same] reason that all the entities are devoid of self-nature." To argue that one needs to agree on methodology or that one has to have a common ground with regard to the categories for a logical debate, according to Śrīharṣa, is tantamount to demanding a pre-approved thesis, which in itself is contradictory to the norms of debate. On the other hand, if what Śrīharṣa is arguing is that a thesis is irrelevant for a debate and so also is the system of justification irrelevant, this approximates the Prāsaṅgika position. For Śrīharṣa, "dialectical process starts by accepting the

conventional existence of the system of justification, [the categories being examined,] and so on." And in that, his position resonates with that of Nāgārjuna that, If I had any thesis, this consequence would be mine. There cannot be a consequence in my [thesis], as I have no thesis (VV 29). Just as Nāgārjuna raises a question that if a system of justification does not require anything to be justified, this system likewise does not correspond to something outside of itself, turning into a self-referential system, and in effect collapsing the system itself (VV 41),6 Śrīharṣa's position makes the same argument: "what does it even mean to have a system of justification?

This conversation keeps the question alive as to whether Śrīharṣa actually adopts the Prāsaṅgika approach or the Svātantrika approach in his rejection of Nyāya categories. This is another story of why he retains such high stature within the school of Advaita, if the Mādhyamika approach is crucial to his text. Returning to the issue of providing an independent hypothesis, Śrīharṣa's position seems closer to the Prāsaṅgika argument. He has clearly rejected the argument that he must provide a thesis in order to enter a debate. Upon the issue of how to interpret two truths (saṃvṛti and paramārtha), on the other hand, Śrīharṣa seems closer to the Svātantrika line of arguments. Sonam Thakchoe summarizes the Prāsaṅgika understanding of the Two Truth Theory along the lines that conventional reality is always intrinsically unreal and therefore something conventionally co-arisen is always conventionally arisen and that ultimate truth or emptiness is intrinsically and therefore ultimately unreal.8 With regard to the Sautrāntika Svātantrika Madhyamaka, Thakchoe summarizes that phenomena are intrinsically real (svabhāvataḥ) at the level of conventional truth while at the level of ultimate truth, all phenomena, except for the emptiness that is maintained to be ultimately real, are intrinsically or ultimately unreal (niḥsvabhāvataḥ). This position would be acceptable to Śrīharṣa as well, with a slight modification: except for saṃvid or consciousness as such before it is conditioned or actualized is the ultimately real category, instead of śūnyatā or emptiness that has been maintained to be real in the absolute sense by the Svātantrikas. The term that Śrīharṣa applies for the conventional is prātibhāsika, which is not alien to the Mahāyāna

terminology. For Śrīharṣa, however, pratibhāsa exists as pratibhāsa, in the sense that the existence of the phenomenal is real in the phenomenal sense and is therefore not a mere prapañca or verbal expression.

13.2 ŚRĪHARṢA

Śrīharṣa was an Indian philosopher and poet, who lived in northern India in the 12th century CE. Śrīharṣa didn't affiliate himself explicitly to any philosophical text tradition active in classical India. Some have argued that he was an advocate of Advaita Vedānta (Phillips 1995; Ram-Prasad 2002). Vedānta (literally, the end of the Vedas) is a family of competing philosophical interpretations of the texts called Upaniṣads that appear at the end of the Vedas. Many texts of Vedānta are commentaries on the canonical summary of the Upaniṣads given by Bādarāyaṇa's Aphorisms on the Brahman (Brahmasūtra). Advaita Vedānta (i.e., non-dualistic Vedānta) is an interpretation of the Upaniṣads and Bādarāyaṇa's Aphorisms, according to which it is only the self or consciousness or Brahman that is ultimately real. The Indian philosopher Śaṃkara (7th century CE) defended this form of non-dualism in his commentary on Bādarāyaṇa's Aphorisms. Śrīharṣa's only surviving philosophical work The Sweets of Refutation (Khaṇḍanakhaṇḍanakhādya) may be read as a defense of this kind of non-dualism, even though he doesn't share all the standard commitments of Śaṃkara and his followers. This reading of Śrīharṣa, however, remains controversial (Granoff 1978).

The broader appeal of Śrīharṣa's work is independent of whether he was a defender of Advaita Vedānta. Throughout The Sweets of Refutation, Śrīharṣa's aim is to demonstrate the instability of rational inquiry within philosophy. For any argument that a philosopher may offer for her view, there is always an equally persuasive counterargument that undermines its conclusion. Since the deliverances of reason are always vulnerable to rational defeat in this way, they cannot constitute good evidence for any philosophical view. To illustrate this idea, Śrīharṣa targets a philosophical method—what we may call the method of definition—pursued by Nyāya-Vaiśeṣika philosophers in informal logic, epistemology and metaphysics. The Nyāya-Vaiśeṣika philosophers use this method of definition to describe a number of ontological categories

which are supposed to capture the structure of reality, and a number of epistemological and logical categories which are supposed to capture various components of rational inquiry. What the Nyāya-Vaiśeṣika philosopher wishes to affirm in the end is a dualistic ontology: the commonsense view on which reality consists of a plurality of things distinct from the self or consciousness, e.g., material things, their qualities, relations amongst them, and so on. Śrīharṣa wants to show that any attempt at defining the epistemological, logical, and ontological categories that the dualist needs for the success of her project must fail: the very standards of rational inquiry that the Nyāya-Vaiśeṣika philosophers adopt undermine their theoretical enterprise from within.

Śrīharṣa's incisive arguments against Nyāya-Vaiśeṣika informal logic, epistemology and metaphysics were influential amongst the defenders of both Advaita Vedānta and Nyāya-Vaiśeṣika philosophy. However, they should also be of considerable interest to the contemporary reader. In the second half of the twentieth century, Anglophone philosophers have grappled with various difficulties that arise for definitions of epistemological notions like knowledge and metaphysical notions like causation. While attacking the method of definition pursued by the Nyāya-Vaiśeṣika philosophers, Śrīharṣa anticipates many of these difficulties. His reaction to these difficulties is pessimistic: he takes these difficulties to demonstrate the futility of offering definitions for commonsense epistemological and ontological categories. Śrīharṣa's arguments for this conclusion remain as relevant to our current philosophical concerns as they were to those of his contemporaries: if his arguments are successful, they will show that philosophical inquiry doesn't really take us very far when it comes to illuminating fundamental epistemological and metaphysical concepts.

Since it is impossible to address all the philosophically interesting themes that emerge from Śrīharṣa's work, most of our discussion in this article shall focus on a small number of topics that illustrate Śrīharṣa's general approach to philosophical problems.

13.2.1 Śrīharṣa on Dialogical Space

Śrīharṣa maintains that his understanding of a dialogical platform is necessary for a meaningful conversation and also that no additional conditions are required. As he says: “We initiate thinking [conversation] by adopting the conventional reality. Accordingly, whatever the mediator acknowledges that this person has not transgressed the lines of whatever the conventional laws have been adopted, that person wins. On the other hand, whosesoever’s words the mediator does not recognize as have met those qualifications (evam), he loses. One is defeated where it is acknowledged that there is a defeat while adopting what the speaker has maintained to be the defeating factors [in a dialogue], and this is not the case with regard to the other. Only these laws need to be adopted for the beginning of a dialogue.” This conversation and what follows, according to Caṇḍī Prasāda Śukla, is a conversation between the Naiyāyikas and the Mādhyamika Buddhists. Yogīndrānanda, on the contrary, maintains that this is a conversation between Naiyāyikas and the Khāṇḍanikas, or those whose primary objective is to reject others’ theses. This is just an example to demonstrate how confusing this has been for even the prominent Paṇḍits whether the sections in Śrīharṣa’s text are actually representing Advaita or Mādhyamika philosophy. Khaṇḍana, however, is only suggesting a possible battlefield scenario where some middle ground is possible, or where a mediator can draw the lines. The concerns Candrakīrti has in a philosophical debate are of different character. He is more interested in knowing if such a conversation can actually lead to the “conversation” of the heart. Tsongkhapa credits Candrakīrti for maintaining that "when one party posits something as a probative reason, even though valid cognition may establish it for the one who posits the syllogism, how can that person be certain that valid cognition establishes it for the other party?”

A dialogue, in this sense, is possible in the Svātantrika platform, or it is more likely to have a dialogue in the Śrīharṣa-Svāntrika platform rather than in the Prāsaṅgika platform. As Sonam Thakchoe summarizes the Prāsaṅgika position: “Just as conventional truth is empty of intrinsic reality, hence ultimately unreal, even so, is ultimate truth empty of intrinsic reality, hence ultimately unreal. It is, therefore, demonstrated that nothing is ultimately real for Candrakīrti, hence everything is empty

of intrinsic reality." Whether the conventional laws really exist is not a question. As Śrīharṣa posits: "the mediator needs to have the knowledge that the speaker has maintained such and so position by following the specific law that have been agreed upon." This, however, does not help us resolve the issue of whether the conventions are real and whether the speakers are speaking the truth by making reality known. Śrīharṣa does not seem to be interested in establishing some absolute truths by means of dialogue. For him, dialogues will lead to falsification of some hypothesis by means of new testimony.

As he argues: "[Objection]: One has to confirm [in the absolute sense] the existence [or presence] of the knowledge of one thesis at the end [of the chain of arguments, i.e., the final thesis], in order for one thesis to exist, there has to be the knowledge of such and so thesis that succeeds. If the existence of a thesis is contingent upon the knowledge of such and so thesis that follows [upon this premise], since we have no means of having the final knowledge, all we know will rest on infinite regress. [Response]: There is no infinite regress. As the existence of such a thesis is not a requirement in all contexts. For there is a maxim that our cognition does not explore beyond three or four categories [of such confirmations]. [Objection]: Upon the rejection of the subsequent knowledge, the preceding thesis will not be confirmed. [Response]: In such a situation, even by maintaining that there is the knowledge of the thesis beforehand will not help resolve the situation. Even if this is the case that the confirmation of thesis only up to third or fourth categories will allow for a dialogical reflection (vicāra), we can make a rule that there is no need for the confirmation of a thesis beyond that point, and so we can engage in a dialogical conversation with this agreed upon law. Otherwise, even if the existence of the veridical means of cognition are agreed upon to exist, the regress of not being able to confirm which veridical knowledge is the final will still remain unresolved."

In other words, Śrīharṣa is ready to engage upon any hypothesis that is not rejected ab initio, or is not contradictory to that which the proponent himself has posited, and he would entertain the thesis if no nullification of thesis is in sight even after three or four categories of dialogue. This stream of argument continues further in Khaṇḍanakhaṇḍakhādya, beyond

the point that I can summarize in my presentation today. I would like to pause for now with a citation from Karl Popper's thesis, with full awareness that his falsification thesis has generated discord among some contemporary philosophers. Popper says: Now in my view there is no such thing as induction. Thus inferences to theories, from singular statements which are 'verified by experience' (whatever that may mean), is logically inadmissible. Theories are, therefore, never empirically verifiable... But I shall certainly admit a system as empirical or scientific only if it is capable of being tested by experience. These considerations suggest that not the verifiability but the falsifiability of a system is to be taken as a criterion of demarcation. In other words: I shall not require of a scientific system that it shall be capable of being singled out, once and for all, in a positive sense; but I shall require that its logical form shall be such that it can be singled out, by means of empirical tests, in a negative sense: it must be possible for an empirical scientific system to be refuted by experience.

13.3 METHOD

This section describes the philosophical method that Śrīharṣa employs in The Sweets of Refutation, and explains what he sought to achieve by it.

13.3.1 The Method of Definition

Throughout The Sweets of Refutation, Śrīharṣa's target is a theory of rational inquiry laid down in the Nyāya system. As defined by the commentator of the Aphorisms on Inquiry (Nyāyasūtra), Vātsyāyana (5th century CE), the term 'nyāya' stands just for critical or rational inquiry. He tells us, Nyāya is the examination of an object using methods of knowing, consisting in reasoning based on perceptual and scriptural evidence. It is inquiry, where inquiry is just the examination of that which has been presented by perception or scripture. (Thakur 1967: 3)

The opening sentence of the Aphorisms on Inquiry is a list of sixteen items that constitute the subject-matter of the Nyāya system.

The highest good is achieved through the knowledge of the nature of:

Methods of knowing and knowable entities;

uncertainty, purpose, public examples, settled opinion, extrapolative demonstration, suppositional reasoning, final conclusion; truth-directed debate, victory-directed debate, destructive debate, defective reasoning, tricks, checks, defeat situations (Nyāyasūtra 1.1.1, Thakur 1967: 2).

In his commentary, Vātsyāyana explains this text as follows. Every area of learning is concerned with a proprietary highest good, and makes available the kind of knowledge that is conducive to achieving that good; for instance, the science of the self (adhyātmavidyā) is concerned with the goal of liberation, and helps us achieve liberation by leading us to the knowledge of the true nature of the self (Thakur 1967: 5). But in order to gain the knowledge that any area of learning has to offer, one must inquire. A properly conducted episode of inquiry begins with an initial state of uncertainty regarding the nature of an object presumably in the domain of knowable entities, involves the application of various methods of knowing (such as perception, inference, testimony, etc.), and terminates in a final conclusion, which constitutes knowledge of the relevant object's nature. The items listed under (i) and (ii) are components of any such inquiry. When inquiry is conducted by several parties aloud in speech, it becomes a debate. The items listed under (iii) describe different styles of debate, and various strategies that one may employ in response to one's opponent within the arena of debate.

Vātsyāyana helpfully delineates the philosophical method that the Nyāya system, as laid out in the Aphorisms on Inquiry, uses in treating its subject matter. It proceeds in three steps (Thakur 1967: 181). The first step consists in enumeration (uddeśa), which involves mentioning the various items to be treated in the theory, e.g., in the lists (i), (ii), and (iii) given above. The second step consists in definition (lakṣaṇa) which involves laying down a defining property, i.e., a property that distinguishes the nature of the definiendum (tattvavyavacchedaka-dharma) (Ibid.).[7] The third consists in examination (parīkṣā), i.e., checking whether or not a certain definition is adequate. The philosopher’s project, on this view, is therefore to define a kind K by articulating necessary and sufficient conditions for being an instance of K, where K may be a method of knowing, a kind of knowable entity, a component of rational inquiry, a style of debate, or a dialectical strategy.

This project was developed by the commentators and sub-commentators of the Aphorisms on Inquiry, and was ultimately absorbed into a larger syncretic tradition that combined the epistemological commitments of Nyāya with the ontological scheme of Vaiśeṣika philosophy and therefore came to be known as Nyāya-Vaiśeṣika.

There are two distinct purposes that Nyāya-Vaiśeṣika philosophers ascribe to definitions.

Specifying the Definiendum. According to Vācaspati Miśra (9th century CE), a definition specifies the definiendum [i.e., the object to be defined] by distinguishing it from things of similar and dissimilar kinds (samānāsamānajātīyebhyo vyavacchidya lakṣyaṃ vyavasthāpayati). (Thakur 1967: 186)

Suppose—following the early Vaiśeṣika philosophers—we define earth as the kind of substance that has the property of having smell. On the basis of this definition, we can make the following inference:

The kind of substance under discussion is distinct from anything that isn't earth; for it has smell. And anything that isn't earth lacks smell, e.g., water.

Thus, we are able to distinguish earth from non-earth in this manner.

Establishing the Use of the Definiendum Term. In his Row of Light-Beams (Kiraṇāvalī), the later Nyāya-Vaiśeṣika philosopher Udayana (10th century CE) describes a different purpose that a definition may serve: alternatively, the purpose of a definition (or a defining property) is to establish the use [of the definiendum term, i.e., the expression that picks out the definiendum] (vyavahārasiddhir vā lakṣaṇa-prayojanam). (Sarvabhouma 1911 [1989: 194])

To establish the use of the definiendum term is to specify the range of entities to which it is ordinarily applied. At least on one interpretation of Udayana, a definition does this by specifying the reason for which the relevant expression is applied (pravṛtti-nimitta), i.e., the application-conditions of that expression (Bhattacharyya 1990: 98–99; Granoff 1978: n. 74). Here, the application-conditions of an expression just consist in a property possessed by all and only referents of that expression. Take the definition of earth as that which possesses earthhood: this specifies the application-conditions of the expression 'earth' since people commonly

apply the expression to things that possess earthhood. Using the definition, therefore, one can make an inference of the following sort,

The kind of substance under discussion is commonly called ‘earth’; for it possesses earthhood. Whatever isn’t commonly called ‘earth’ doesn’t possess earthhood, e.g., wind.

This inference, in turn, specifies the extension of the term ‘earth’ as it is commonly used.

Both these uses of definitions are important for understanding Śrīharṣa’s dialectical strategy in The Sweets of Refutation.

13.3.2 Refutation-Arguments

Throughout The Sweets of Refutation Śrīharṣa’s aim is to argue against Nyāya-Vaiśeṣika philosophers by means of what he calls refutation-arguments (khaṇḍana-yukti). Refutation-arguments against definitions are supposed to reveal that the relevant definitions are inadequate. In cases where no adequate definition is available for an entity, the relevant entity to be defined cannot be specified, i.e., distinguished from those things that are distinct from it.[8] This follows from the thesis, endorsed by Vācaspati Miśra, that the purpose of a definition is to specify the definiendum by distinguishing it from things that are distinct from it. So, if Śrīharṣa’s refutation-arguments are successful in showing that there exists no adequate definition for any of the ontological, logical, and epistemological categories that the Nyāya-Vaiśeṣika philosopher seeks to define, then she will have failed to specify those categories that are essential to her theoretical enterprise.

Śrīharṣa describes two ways in which his refutation-arguments could be useful. First of all, they are supposed to favor the kind of non-dualism—defended by supporters of Advaita Vedānta—which says that the self or consciousness is the only thing that is ultimately exists. According to Śrīharṣa, the refutation-arguments show that we cannot establish the ultimate reality of the variegated world as it appears in perceptual experience, the world which appears to be constituted by a plurality of things and whose existence we assume for our everyday practical purposes (KKh 63). This is because we cannot adequately define the various ontological and epistemological categories—such

as difference, causation, relation, knowledge, perception, etc.—using which we make sense of that world and our epistemic relationship with it. It is in this sense that the variegated world as it appears to us in perception is indeterminable (anirvicanīya).[9] And in the absence of such definitions, the distinctions amongst these constituents of reality and our methods of knowing them cannot be treated as ultimately real. This in turn will clear room for non-dualism.

Second, even though the main purpose of refutation-arguments is to show that the plurality of things in the world shouldn't be treated as ultimately real, Śrīharṣa claims that they may also prove useful for the opponents of non-dualism. For instance, if one is a Nyāya-Vaiśeṣika philosopher who admits the reality of methods of knowing, etc., then one may use at least some of the refutation-arguments to rule out alternative views held by other philosophers, including the views of their predecessors within the same school as well as their opponents. Moreover, even in the kind of debate where one is engaged in the pursuit of truth and doesn't merely seek to defeat one's opponent, one would have to respond to refutation-arguments before one could arrive at one's own view. Thus, refutation-arguments have universal application (KKh 123–125).

While offering his arguments, Śrīharṣa explicitly appeals to three criteria of adequacy for definitions which he takes to be common ground between himself and his opponents.

1. The first is a criterion of extensional adequacy: an adequate definition of a kind K should state the conditions that are necessary and sufficient for being an instance of K. First of all, the definition shouldn't fail to apply all instances of K. Second, it shouldn't be underextended, i.e., there shouldn't be cases of K where the definition doesn't apply. Third, it shouldn't be overextended, i.e., there shouldn't be things that are not of kind K where the definition applies.
2. The second criterion of adequacy for definitions—also widely endorsed by Nyāya-Vaiśeṣika philosophers- is the criterion of non-circularity: an adequate definition must not be circular, i.e., a definition of a kind K must not mention any kind K* such that in

order to know what K* is, an agent would (directly or indirectly) need a prior understanding of what K is.

3. The third criterion of adequacy that Śrīharṣa invokes is slightly more controversial. It is the criterion of uniformity (anugama): an adequate definition of a kind K should identify a single property that uniformly characterizes all instances of K. This criterion entails that an adequate definition of a kind K should be non-disjunctive, i.e., it should not list a number of different properties A, B, C,…, satisfying one of which is sufficient for being an instance of K, but satisfying any one of which may not be necessary for being an instance of K.

The latter two criteria of adequacy seem to appeal to the two different conceptions of definitions mentioned above.

The criterion of non-circularity seems to follow straightforwardly from the conception of definition on which a definition is supposed to lay down a distinguishing property of a kind K, which in turn can help us distinguish instances of K from all other objects. This seems to entail that the definition of K can't appeal directly or indirectly back to K itself; for then it would be unhelpful when it comes to distinguishing instances of K from other entities. But if the purpose of a definition is to capture the application-conditions of the definiendum term, then the criterion of non-circularity doesn't make much sense; for the concept on the basis of which the definiendum term is used might be unanalyzable independently of itself, so no non-circular definition might be available for it.

By contrast, the criterion of uniformity seems to be connected with the second conception of definition on which the purpose of a definition is to establish the use of the definiendum term. If the expression is applied to a number of distinct entities, we might expect that these entities share some unifying property in virtue of which the same expression is applied to them. A definition—insofar as it is intended to capture the application-conditions of the definiendum term—would be inadequate if it didn't capture this unifying property.[10] But if the purpose of a definition is only to lay down a distinguishing property for the definiendum, then the criterion of uniformity doesn't make much sense; for the only

distinguishing property for the definiendum may well be a motley disjunction of different properties.

13.4 EPISTEMOLOGY

13.4.1 The Challenge of Epistemic Luck

The very first definition of knowledge that Śrīharṣa attacks is offered by Udayana in his Garland of Definitions (Lakṣaṇamālā) (Jhā 1963: 3). knowledge i Knowledge is non-mnemonic awareness of the truth (tattvānubhūti).

After offering a long series of objections against the definitions of truth (tattva) and non-mnemonic awareness (anubhūti), Śrīharṣa proceeds to give a general argument against this definition: it overextends to the case of accidentally true (kākatālīya-samvāda) awareness (KKh 207–208). He then proceeds to give some examples of such accidentally true awareness that we can flesh out as follows.

Shells. Holding five shells in his closed fist, a bookie asks the gambler, "How many shells do I have in my hand?" The gambler hasn't seen the contents of the bookie's hand, but, for some reason, he has a hunch that there are five shells in the bookie's hand. On that basis, he judges that there are five shells in the bookie's hand. So, he replies, "Five." Does that mean that he knows this claim? Surely not: the gambler has hit the truth merely accidentally (KKh 208).

Mist. You look at a far-away hill, and see what looks like smoke emerging from it. So, you judge that there is smoke on the hill. Since you know that fire always accompanies smoke, you infer, "There's fire on the hill." In fact, what you saw was just mist, but there is in fact fire on the hill. Your awareness therefore is true, but is it knowledge? Once again, you have only accidentally hit the truth, and therefore you lack knowledge (KKh 211).

Horns. An animal comes into your view, but you are unable to tell what it is. A little later, as you get closer, you see horns on the animal's head. Falsely, you believe that only cows have horns. So, you infer, "That

animal is a cow." Your awareness is true, but only accidentally so. That is why you lack knowledge (KKh 213).

These are cases of epistemic luck: in each case, the protagonist hits the truth, but only luckily so. That is why he or she lacks knowledge. Śrīharṣa's discussion of these counterexamples to the "true awareness" account of knowledge is significant for two reasons.

First of all, Mist and Horns clearly conform to the structure of standard Gettier cases; similar examples are also discussed by classical Indian philosophers such as Dharmottara, Kumārila, and Srīdhara (Matilal 1986: ch. 4; Ganeri 2007: ch. 5; Stoltz 2007). Even though Śrīharṣa doesn't intend these examples to be counterexample to any "justified true belief" account of knowledge, he does seem to think that in order to rule out cases of this kind from the scope of knowledge, we need to impose an anti-luck condition on knowledge. And this is precisely the lesson that philosophers have drawn from the cases of epistemic luck described by Gettier (1963). What this suggests is that the kind of intuitions that Gettier and others were trying to elicit with such cases are not intuitions shared by a narrow group of Anglophone philosophers. This, in turn, casts doubt on arguments—offered by early researchers in experimental philosophy (Weinberg et al 2001; Weinberg 2007)—which sought to debunk Gettier intuitions by showing that they might just have been artifacts of a certain culture. The history of Indian philosophy in Sanskrit shows that even in classical India, Gettier phenomena were recognized as a potential problem for theories of knowledge that didn't include any anti-luck condition. This, one might argue, should bolster our confidence in treating such intuitions as evidence in philosophical inquiry.

Second, and perhaps more importantly, Śrīharṣa uses these cases to argue that there may not after all be any satisfactory definition of knowledge. Even though Śrīharṣa's criticisms are directed against proposals of knowledge defended by his predecessors and contemporaries, his arguments remain relevant to today's discussions of knowledge. On the one hand, he anticipates some of the problems that arise for recent attempts at solving the Gettier problem, e.g., -conditions like sensitivity and safety and theories like the relevant alternatives theory. On the other hand, he also claims that the problem posed by cases of epistemic luck

cannot be avoided simply by treating knowledge—as Williamson (2000) does—as analytically primitive. The following three sections survey some of these arguments.

13.4.2 Knowledge as Awareness Produced by the Right Method

Immediately after considering Shells, Śrīharṣa entertains the following modification of the "true awareness" account of knowledge.

knowledge ii An awareness-episode has the status of knowledge if and only if it is a true, non-recollective awareness-episode that is produced by a method which never produces false awareness-episodes (avyabhicārikaraṇajanya).[11]

Śrīharṣa goes on to gloss this proposal as saying that knowledge consists in non-recollective awareness of the truth produced by a set of causal conditions (kāraṇa-sāmagrī)—which includes the method (karaṇa) as well as background causal conditions—that never produce false awareness (see footnote 11). Presumably, the defender of this proposal would want to say that in cases of accidentally true awareness, the causal conditions that produce the awareness-episode could easily have given rise to false awareness. For instance, in Shells, the causal conditions that give rise to the relevant episode of awareness could also have produced the awareness that the bookie had five shells in his hand when he in fact had four. In this respect, knowledge ii resembles anti-luck conditions like safety and sensitivity, both of which appeal to methods that don't produce false beliefs in nearby possibilities.[12]

Śrīharṣa sees a danger of extensional inadequacy here: the new clause in the definition of knowledge is unable to rule out accidentally true awareness from the scope of knowledge. Śrīharṣa's argument relies on the following principle. the sufficiency principle If an awareness-episode is true and non-recollective, then the causal conditions that give rise to the relevant awareness-episode are together causally sufficient to give rise to a true awareness-episode, i.e., they couldn't give rise to a false awareness-episode.[13]

The principle in fact falls out of Śrīharṣa's Nyāya-Vaiśesika opponent's view. For most Nyāya-Vaiśesika philosophers, the status of an

awareness-episode as knowledge and therefore its status as true and non-recollective is causally explained solely by certain epistemic virtues (guṇa) that reside in the causal conditions that give rise to it.[14] If this is the case, then the truth of a non-recollective awareness-episode should be explained solely in terms of those epistemic virtues. Hence, if an awareness-episode is true and non-recollective, then the causal conditions that give rise to the relevant awareness-episode—in virtue of the epistemic virtues that reside in them—should suffice to give rise to a true awareness-episode in every case, i.e., they couldn't give rise to a false awareness-episode.

Now, if the sufficiency principle is correct, then the same set of causal conditions that gives rise to an accidentally true awareness-episode couldn't possibly give rise to a false awareness-episode. Otherwise, we would be committed to something absurd, namely that even false awareness-episodes are true. The only other option is to grant that the set of causal conditions that gives rise to a true awareness-episode can only give rise to true awareness-episodes. In that case, the proposed definition of knowledge would be incapable of ruling out instances of accidentally true awareness.

However, one might suspect that the sufficiency principle is not true after all. For instance, in cases like Shells, it does seem as if the causal conditions that give rise the agent's awareness could also produce false awareness. Moreover, nothing Śrīharṣa says in fact decisively supports this principle.[15] But it is worth pointing out that Śrīharṣa needs nothing as strong as the sufficiency principle to make the point that he wants to make. The general objection seems to be this. Suppose we explain the status of any awareness-episode as knowledge by appealing to the good-making features of the relevant causal mechanism—the putative epistemic virtues of the Nyāya-Vaiśeṣika philosopher—that gives rise to it. We may say that these epistemic virtues are the ones that guarantee that the awareness-episode won't be false. But an accidentally true awareness-episode is one which is produced by a causal mechanism that lacks all of these knowledge-conducive epistemic virtues, and that is why it isn't guaranteed to be true. This explains why such awareness-episodes seem true as a matter of luck. But the problem is this. No matter what

these truth-guaranteeing epistemic virtues are, it will always be possible to find episodes of awareness which are produced by causal mechanisms that possess all these virtues, but nevertheless only accidentally true. In this sense, even if the new definition of knowledge is fleshed out in terms of knowledge-conducive epistemic virtues, it won't be able to rule out cases of knowledge-destroying epistemic luck. So, the Nyāya-Vaiśeṣika philosopher's appeal to causal conditions that would never give rise to false awareness-episodes seems mistaken.

Here is another kind of method-based solution that Śrīharṣa takes up a little later in the text (KKh 238). knowledge iii Knowledge is the non-mnemonic awareness of the truth produced by a non-defective method (aduṣṭakaraṇajanya).

The rationale for the proposal, once again, is clear. In cases like Shells, there is something defective about the manner in which the agent arrives at his or her final awareness: in the first case, it is a blind guess, and in the latter two, it is a perceptual error.

Śrīharṣa notes that this definition won't be informative unless his opponent specifies what defectiveness consists in. Suppose a defender of knowledge iii says, It is a distinctive property which is conducive to the production of contrary awareness-episodes and which is possessed by the causal conditions that give rise to such awareness-episodes (viparītajñānaprayojakas taddhetugato viśeṣaḥ). (KKh 238)

But what are contrary awareness-episodes? The opponent cannot say that contrary awareness-episodes are just false awareness-episodes, because that would make this proposal equivalent to knowledge ii; for, now, knowledge iii will just entail that knowledge is non-mnemonic awareness of the truth produced by a method that doesn't possess a property that is conducive to the production of false awareness-episodes. If the qualifier "contrary" is supposed to rule out knowledge, then the opponent won't be able to define knowledge in knowledge-independent terms. Therefore, her definition of knowledge will be circular.

Once again, the charge of circularity generalizes quite nicely to other proposals that appeal to the notion of method or causal process. The general argument is that if we want to rule out accidentally true

awareness from the scope of knowledge by appealing to the non-defectiveness of methods, then we need a non-circular account of epistemic defects that can be stated in knowledge-independent terms. Śrīharṣa is skeptical that such a non-circular account is available.

13.4.3 Knowledge as Discrimination

Śrīharṣa considers another proposal—defended by Udayana and Bhāsarvajña (10th century CE)—according to which knowledge is "proper circumscription" (samyak-paricchitti) (Upādhyāya & Śāstri 1957: 475; Svāmī Yogīndrānanda 1968: 11). In explaining this definition, Śrīharṣa says that "proper circumscription" can't just mean true or correct awareness; for then this proposal will inherit all the problems that the "true awareness" account of knowledge faces. So, he reconstructs this proposal on the basis of some remarks that Udayana makes elsewhere while discussing knowledge of one's knowledge.[16]

According to the reconstructed proposal, knowledge is proper circumscription of an object in the sense that it involves an awareness of an object along with (or on the basis of) its distinctive mark (viśeṣasahita-dharmi-paricchitti). The best version of this proposal—which Śrīharṣa arrives at after considering a series of initial refinements—seems to be this.

knowledge iv Knowledge is proper circumscription of an object, i.e., an agent knows that an object o is F if and only if she is aware of o as having a property X which it in fact has, such that X distinguishes o from all non-Fs.[17]

On this picture, knowledge involves discrimination: in order to know that an object o is F, one must be able to discriminate o from things that are not F. Knowledge gives the agent this ability insofar as it involves an awareness-episode that puts the agent in touch with a genuine feature of the object o in virtue of which she can distinguish o from non-Fs. We can see how this definition rules out cases like Shells, Mist, and Horns. In Shells, since the agent's awareness-episode arises from a blind guess, he or she isn't aware of any distinctive mark X in virtue of which she could tell whether the number of shells in the gambler's hand is five rather than, say, three or four. Similarly, in Mist, the agent mistakes mist for

smoke. Even though smoke is a distinctive mark of fire, the smoke that she ascribes to the mountain isn't a property that the mountain actually has. Finally, in Horns, the agent infers that the animal before her is a cow on the basis of the fact that it has horns. But horns aren't a distinctive mark of cows.

Śrīharṣa argues that this definition of knowledge fails to satisfy the criterion of uniformity; for the relevant distinctive mark—the awareness of which is necessary for knowledge—will vary from one case to another. For example, when it comes to an awareness of a clod of earth as earth, the distinctive property X would have to be a property distinctive of earth, e.g., earthhood or having smell, etc. But when it comes to recognizing a cow as a cow, the distinctive property X would have to be something else: a property that is distinctive of cows, e.g., cowhood or having a dewlap, etc. In general, Śrīharṣa claims that there is no way of uniformly characterizing this distinctive property X that an agent needs to be aware of in order to have knowledge.[18]

More importantly, Śrīharṣa suggests that even if there are uniform characterizations of the notion of a distinctive mark, such characterizations will inevitably be uninformative. To show this, he considers a minimal pair of cases which we may flesh out as follows.

Castor and Pollux. Uma and Una are talking to two distinct speakers: Una is talking to a reliable speaker Castor, while Uma is talking to an unreliable speaker Pollux. Both Castor and Pollux correctly inform them that there are five fruits hanging from the tree on the river-bank. However, on the basis of the relevant bits of testimony, only Una knows that there are five fruits hanging from the tree on river-bank, but Uma doesn't (KKh 230).

The challenge is this. Both Uma and Una get the same information from the relevant speakers. But in order to explain the difference in epistemic status between their awareness-episodes, the defender of knowledge iv needs to show that Una is aware of a distinctive mark X in virtue of which she can tell that there are five fruits hanging from the tree on the river-bank, but Uma isn't aware of any such distinctive mark. But we could just stipulate that in Castor and Pollux, there is no property X such that Una is aware of X on the basis of Castor's testimony, but Uma is not

aware of X on the basis of Pollux's testimony. This shows that we cannot clearly identify the distinctive mark X in every case of knowledge.

For Śrīharṣa, without any adequate uniform and informative characterization of the distinctive mark X, the definition of knowledge as proper circumscription of the object ought to be rejected (for other objections that he offers, see Ganeri 2016). This charge seems to be getting at something general about a class of different approaches towards defining knowledge. Several contemporary theories of knowledge involve a conception of knowledge as involving a discriminatory capacity of some kind. Take, for instance, the relevant alternatives theory which says that in order to know a proposition P, an agent must be able to rule out relevant possibilities where P is false (Stine 1976; Goldman 1976; Dretske 1981; Lewis 1996). However, as it turns out, which possibilities count as relevant will vary from one scenario to another, and perhaps also from one context of knowledge-attribution to another. In particular cases, we might indeed be able to tell whether a certain alternative counts as relevant or not. But it is unclear that we could systematize these intuitions enough to produce a single unified criterion of relevance; or, even if we did manage to do so, it is unclear whether such a criterion would be informative enough to generate predictions about every possible scenario. Thus, once again, Śrīharṣa's worry generalizes.

13.4.4 Knowledge as Primitive

These problems are not the only problems that Śrīharṣa raises for various definitions of knowledge, but they are useful insofar as they give us a clear understanding of what he takes to be an adequate definition of knowledge. He seems to think that a definition of knowledge should give us a unified decision procedure which will allow us to correctly predict whether any particular awareness-episode is an instance of knowledge without appealing back to the notion of knowledge itself. Moreover, insofar as he appeals to our intuitions about cases, he also seems to assume that this decision procedure should respect (to some extent) our ordinary concept of knowledge. But one might respond to Śrīharṣa by pointing out that this approach only makes sense if we assume that the

concept of knowledge is analyzable in terms of more basic concepts that do not refer back to knowledge. What if we deny this assumption and claim, with writers like Williamson (2000), that the ordinary concept of knowledge is unanalyzable in that manner?

Śrīharṣa entertains a proposal that connects up nicely with this question (KKh 245). He imagines an opponent who says that knowledge v An awareness-episode constitutes knowledge if and only if it is an instance of the natural kind property (jāti) knowledgehood.

Śrīharṣa is skeptical of the idea that knowledgehood is a natural kind property. But even if we set that topic aside, it is not difficult to see that this proposal essentially seeks to avoid Śrīharṣa's objections against the definability of knowledge, by treating the concept of knowledge as unanalyzable in knowledge-independent terms.

Śrīharṣa imagines the defender of this proposal to be someone who thinks that our ordinary self-ascriptions of knowledge reliably track the presence of knowledgehood in various awareness-episodes. But this can only be the case if there is some kind of causal connection between knowledgehood and our self-ascriptions of knowledge, i.e., if knowledgehood causally regulates our self-ascriptions of knowledge. But surely, Śrīharṣa argues, knowledgehood can only give rise to self-ascriptions of knowledge insofar as we are aware that knowledgehood is instantiated in various awareness-episodes. When we sincerely say that some awareness-episode constitutes knowledge, we have to be antecedently aware of knowledgehood as instantiated in that awareness-episode.

Then, the question will be: How do we determine whether an awareness-episode is an instance of knowledgehood? Even when the awareness-episode is our own, we cannot ascertain whether it is knowledge by introspection alone; for, even though we may be aware of an awareness-episode by introspection, we could still doubt or be mistaken as to whether it is knowledge. So, it seems that we can only determine whether an awareness-episode constitutes knowledge by means of inference on the basis of some kind of symptom. Are there many such symptoms or one? If there is just one symptom distinct from knowledgehood, we should just treat that as the defining property of knowledge; so, defining

knowledge in terms of knowledgehood makes no sense. But if there are many such symptoms, we need to say which ones they are; for Śrīharṣa has already argued that the widely accepted definitions of knowledge are inadequate and therefore cannot be reliable symptoms of knowledge.

The upshot is this. Anyone who defines knowledge in terms of knowledgehood and therefore abandons the project of defining knowledge in knowledge-independent terms cannot offer any satisfactory story about how we in fact ascribe knowledgehood to various awareness-episodes. In the absence of such a story, there is no reason to think that there is a genuine property of knowledgehood that we are tracking through our practices of knowledge-attribution. Thus, the project of defining knowledge in terms of knowledgehood fails.

Check Your Progress 1

Note: Use the space provided for your answer

1. How do you know about the Śrīharṣa?

……

……

……

2. Discuss the Method.

……

……

……

3. What do you know the Epistemology?

……

……

……

13.5 LET US SUM UP

In fact, Śrīharṣa offers two responses to this objection. The first response (which occurs at KKh 75ff) is this. Even if the deliverances of perception did conflict with the content of Upanisadic testimony, a perceptual awareness-episode would only rebut a part of that content: the part which talks about the non-distinctness from the self of the objects that are

presented in the relevant perceptual awareness-episode. But we would still have a default entitlement to think that Upanisadic testimony produces knowledge with respect to the remainder of its content. If we grant this, then it will be very hard to ward off the doctrine of non-duality. For instance, even though a perceptual awareness-episode may present a cloth as distinct from a pot, it may not present itself as distinct from the perceived objects, namely the pot and the cloth. So, it is possible for Upanisadic testimony to establish the identity between the perceptual awarenesss-episode that there is a difference between the pot and the cloth, and the objects—the pot and the cloth—that are presented in perception. This in turn would clear room for the doctrine of non-duality. This is precisely the conclusion that Śrīharṣa wants: a perceptual awareness-episode cannot really rebut scriptural testimony. The argument seems a bit quick; especially, the premise that even though the content of perceptual awareness may contradict a part of the content of Upanisadic testimony, one could still be entitled to treat Upanisadic testimony as reliable with respect to rest of its content. One might think that the fact that Upanisadic sentences give us false information in one domain gives us some reason to thinking that it may be unreliable in other domains. But Śrīharṣa never addresses this worry.

13.6 KEY WORDS

Śrīharṣa: Śrīharṣa was an Indian philosopher and poet, who lived in northern India in the 12th century CE. Śrīharṣa didn't affiliate himself explicitly to any philosophical text tradition active in classical India. Some have argued that he was an advocate of Advaita Vedānta (Phillips 1995; Ram-Prasad 2002).

13.7 QUESTIONS FOR REVIEW

1. Write in details about the Śrīharṣa.
2. Discuss the importance of Śrīharṣa in Indian philosophy.

13.8 SUGGESTED READINGS AND REFERENCES

- M. Srinivasachariar (1974). History of Classical Sanskrit Literature. Motilal Banarsidass. ISBN 978-81-208-0284-1.
- Phyllis Granoff (2006). "Mountains of Eternity: Raidhū and the Colossal Jinas of Gwalior". Rivista di Studi Sudasiatici. Firenze University Press. 1: 31–50. doi:10.13128/RISS-2455.

13.9 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 13.2
2. See Section 13.3
3. See Section 13.4

UNIT 14: ŚRĪHARṢA 2

STRUCTURE

14.0 OBJECTIVES

After this unit, we can able to know:

- To discuss about the Metaphysics.
- To know the Philosophy of Mind
- To describe the Futility of Inquiry

14.1 INTRODUCTION

Of philosophical debate is a game, it is not free from manipulation. The parties involved do not come with just their positions but also with the rules that can shift the game in their favor. Vitaṇḍā or frivolous argumentation, for the Nyāya logicians, constitutes a case for disqualification. Vātsyāyana identifies someone adopting this mode of purposeless wrangling as the person who (i) employs destructive criticism with an intent only to destabilize the thesis of the proponent

with himself having no thesis to establish, (ii) makes destructive criticism as his thesis, (iii) while he rejects having a thesis but nonetheless makes destructive criticism of his opponent as his mission, or (iv) makes certain positive claims elsewhere while maintaining that he has no thesis of his own. While these arguments are apparently directed towards Nāgārjuna, the dialectic of Śrīharṣa suffers the same criticism a millennium later. He would not even like to accept that he has a thesis, for that would require some form of justification. His argument is, just as a category needs the system of justification for it to be confirmed, so also the system of justification needs external verification. Neither Nāgārjuna nor Śrīharṣa are willing to concede the debate in light of this argument though. Both see virtue in their argumentation, not just the virtue of correct insight but also a soteriology embedded with this virtue. Both these are nonetheless in a logical impasse, and the strategy of Śrīharṣa is identical to that of Nāgārjuna in maintaining his position and not being incapacitated. A few instances from Nāgārjuna's writings can help clear the air, although it is not possible for me to fully address this issue here. We can particularly gain insight by reading select passages from the Vigrahavyāvartanī (VV), as this will also sheds light on Śrīharṣa's arguments.

By adopting Searle's distinction between propositional and illocutionary negations, Matilal (1986, 66-7, 88-9) argues that Nāgārjuna is not simply interested in rejecting the opponent's proposition. Instead, he negates the very act of making a statement. The issue of how to interpret negation in the philosophy of Nāgārjuna is a thorny one, as evidenced by the Prāsaṅgika-Svātantrika debate in the classical times and Ferraro contra Siderits and Garfield controversy in our time.[3] While the objective here is not to analyze negation, even the position that Nāgārjuna does not maintain a proposition (or, negates the possibility of maintaining any proposition) evokes the same issues. Nāgārjuna proclaims:

If I had any thesis, this consequence would be mine. There cannot be a consequence in my [thesis], as I have no thesis (VV 29).

The issue is, if the rejection of the intrinsic validity of a system of justification were a thesis (either for Nāgārjuna or for Śrīharṣa), the objections of having one's own unproven thesis, the need for external

verification of thesis, a need for something in existence as prerequisite for something to be negated, or similar other objections would be valid. However, as Nāgārjuna proclaims and Śrīharṣa silently adopts, the questioning of the system is not equivalent to the premise that a system relies on external justification. What has been discussed above while analyzing Śrīharṣa's arguments against the system of justification, without a doubt, is an elaboration of the following position of Nāgārjuna:

If you [consider] that the establishment of the corresponding objects are by means of the system of justification, please explain, how is your means of justification established? (VV 31).

Nāgārjuna raises reductive arguments for both sides of the issue:

If the position is that the system of justification does not rely on any system for its establishment, then the thesis that categories are established by means of the system of justification is itself rejected.

On the other hand, if any additional system is introduced to justify the system, it leads to infinite regress.

This chain of arguments directly touches the heart of the classical debate over the scope of the system of justification, with one party arguing that the system that justifies the validity of something also validates itself by the same act of producing veridical knowledge, while the other party making the argument that it is the second mode of justification that confirms the validity of the first mode. Presented differently and for different purposes, these two are the most common arguments found in skepticism East and West. The first negative argument of Hume, for instance, that "all knowledge degenerates into probability (T 180, 1.4.1.1), or "all knowledge resolves itself into probability" (T 181, 1.4.1.4) explores the option of the knowledge system being capable of self-justification. It is not possible to infer something without a prior cognition through perception. This is to say that inference does not support an intrinsically self-justified system. Human reasoning is based on empirical experience. Perception, however, follows the same suit, as it is not free from defects. We have error and hallucination and day-dreaming and many other terms to describe the experiences that are not veridical. To resolve this, even the classical Naiyāyikas developed a two-tiered cognition, with first understanding pramāṇa as a means of veridical

cognition, and inference used to confirm what is gained through pramāṇa, understanding pramāṇa as a system of justification. Hume's argument above can be understood along the same lines, and be presented like "knowledge claims become embedded in belief claims" (Owen 1999). Descartes makes a similar observation that we might be making a mistake in demonstrative reasoning. Both Nāgārjuna and Śrīharṣa cannot agree with a positive claim, as Hume does on this ground, though, that all that could be doubted is to be treated as false. The issue for these philosophers is not to establish falsity but just to reject the validity of knowledge claims based on reasoning and experience.

If the means by which we make our judgments are extrinsically verified, as Nāgārjuna has pointed out, it leads to infinite regress. Hume's second argument resembles this in him saying that "in every judgment, which we can form concerning probability, as well as concerning knowledge, we ought always to correct the first judgment, deriv'd from the nature of the object, by another judgment, deriv'd from the nature of the understanding" (T 181-82, 1.4.1.5). A general dialectical closure sought, in light of this objection, is that there is no purpose in constantly seeking justification. This, however, hardly resolves the issue.

Classical Hindu and Buddhist philosophical debate provides a platform for a number of justification theories to evolve. Most common among the arguments for intrinsic justification is that a judgment does not rely on another for its verification, but rather, if the knowledge a system has generated is veridical, the system is justified as valid by the same token. The metaphor commonly used is that just as fire illuminates itself while also illuminating other objects, so also do pramāṇas justify themselves while validating some other claims. Nāgārjuna finds this argument unintelligible, as he retorts: (i) there is no instance of the fire not being manifest, for one to make a claim that the fire illuminates itself (VV 34), and (ii) if the fire were to manifest itself it should also burn itself (VV 35). P is called a pramāṇa on the ground that it confirms Q. Something that justifies and the ground on which something is justified cannot be identical. Examples abound in the classical texts, such as a sword cutting itself or a finger pointing itself. Nāgārjuna raises another question on this

ground that if a system of justification does not require anything to be justified, this system does not correspond to something outside of itself, turning into a self-referential system, and in effect collapsing the system itself (VV 41).[7] Śrīharṣa's initial statement, 'what does it mean to have a system of justification?,'[8] and the subsequent conversation raise the same issue of asking for the meta-categories for a system to exist, upon which a cognition can be considered veridical.

Unlike Hume who returns to 'the ordinary wisdom of nature,' pointing to 'the fallacious deductions of our reason,' Nāgārjuna and Śrīharṣa describe reality in conventional and absolute terms. Here again, although the two-tier truth theory might look identical, what Śrīharṣa wants to achieve by this, i.e., the singular reality of the Brahman or consciousness-in-itself, is quite different from what Nāgārjuna aims to demonstrate: the absolute truth is that entities are devoid of their self-nature. And it is in this conventional level that a dialectical practice is possible. Two common mistakes people make based on the above presentation are: (1) both Nāgārjuna and Śrīharṣa are not dedicated to a dialectical process, and (2) both these are mystics, who, while rejecting the phenomenal truth, are pointing to something mystical that cannot be grasped by the mind or explained by language. Needless to say, both these arguments are ludicrous. Both philosophers assume that the absolute position, Śūnyatā for one and the Brahman for the other, are confirmed through dialectical reasoning. Both maintain their status in a dialogical platform and engage in a hairsplitting argumentation. Their texts are composed (of course in language) accepting the norms of arguments, and consider the positions of their opponents, while categorically rejecting their claims. For both these philosophers, truth is constantly revealing and it is well within one's reach to recognize Śūnyatā or the Brahman. This recognition is not something 'higher' or transcendental in any sense, and the insight one gains is not 'hazy' awareness of some 'mystical' experience. Although this truth may not be justified by reason, or the system of justification may fail to ground it, it is nonetheless confirmed through the dialectical process, and the realization of Śūnyatā or the Brahman is not something distinct from

dialectical closure. For both, it is the Śūnyatā or the Brahman that provide the foundation for a dialogue.

14.2 METAPHYSICS

A significant part of The Sweets of Refutation is devoted to the question of whether various items in the Nyāya-Vaiśeṣika ontology can be satisfactorily defined. In the Aphorisms on the Vaiśeṣika System (Vaiśeṣika-sūtra), Kaṇāda (2nd century CE) offered an ontological scheme that included six positive categories (bhāva-padārtha-s), namely, substance (dravya), quality (guṇa), action (karma), universal (sāmānya), ultimate differentiator (viśeṣa), and the relation of inherence (samavāya). In Of the Seven Categories (Saptapadārthī), the later Vaiśeṣika philosopher Śivādityamiśra (12th century CE) added the negative category of absence (abhāva) to the list. This scheme of seven ontological categories was adopted by Nyāya-Vaiśeṣika philosophers like Udayana who combined this ontological scheme with the epistemological commitments of Nyāya. In the fourth chapter of The Sweets of Refutation, Śrīharṣa sets himself the task of dismantling this ontological scheme: he begins by attacking the notion of a positive category, and then attacks the definitions of substance, universal, ultimate differentiator, relation, and absence.

Along the way, he focuses attention on two key items in the Nyāya-Vaiśeṣika ontology: causation and distinctness. Without these two items, the Nyāya-Vaiśeṣika philosopher cannot defend the claim that there is a plurality of things in the world that are distinct from consciousness or the self. Once causation is out of the picture, the Nyāya-Vaiśeṣika philosopher cannot explain how our conscious awareness-episodes can be brought about by mind-independent objects. Analogously, without distinctness, the Nyāya-Vaiśeṣika philosopher cannot claim that we have any reason to believe that there is a plurality of objects in the world. This section shall outline Śrīharṣa's discussion of causation and distinctness.

14.2.1 Causation

On the standard picture that almost all classical Indian philosophers work with, the relata of the causal relation are not just events, but are rather

things (which may include events). When a lumberjack chops down a tree with his axe, the relata of the relevant causal relation are not the event of the tree's falling (i.e., the effect) and the event of the lumberjack hitting the tree with his axe. Rather, the causal relation holds between the event of the tree's falling (i.e., the effect) and a set of distinct entities, e.g., the axe, the lumberjack who wields the axe, the contact between the tree and the axe, etc. Call these causally relevant factors the causal conditions (kāraṇa) for the falling of the tree.

In the fourth chapter of The Sweets of Refutation, Śrīharṣa argues that the notion of a causal condition cannot be defined. This section takes a closer look at Śrīharṣa's arguments against one definition of causal conditions offered originally by Udayana in his Flower Offerings of Reason (Nyāyakusumāñjali) under verses 1.13 and 1.19.

causation=invariable conjunction A causal condition relevant to the production of an effect e is an entity that invariably (niyatatvena) precedes e. As Śrīharṣa notes (KKh 710), this definition can be fleshed out in at least two ways, depending on how we understand the expression 'invariably.' Here is the first interpretation.

Causation=invariable conjunction i A causal condition relevant to the production of an effect e is an entity c which is unconditionally (anaupādhikatvena) present before e is produced.

An effect e is unconditionally preceded by a condition c if and only if there is no third condition c* such that c is present only when c* is also present, but, sometimes e is produced without c* being present before it. In other words, a condition e is unconditionally preceded by a condition c if and only if whenever e is produced, c is present before it.

Śrīharṣa argues that this proposal falls prey to what we may call the problem of spurious correlations. Take a scenario where an entity c and an effect e share a common cause, e.g., the first unclear symptoms of a disease and the later more pronounced symptoms of it. Here, there is a common cause for both sets of symptoms: the disease itself (or perhaps, the conditions that produce the disease). The first set of symptoms accompanies the second set unconditionally. There is no third condition c* such that the first set of symptoms are produced only if c* is present, but c* is sometimes absent from cases where the second set of symptoms

is present. This makes the connection between the two sets of symptoms unconditional, but that doesn't make the first set of symptoms causally relevant to the second.

The other interpretation of causation=invariable conjunction cashes out the expression 'invariably' using modal vocabulary.

Causation=invariable conjunction ii A causal condition relevant to the production of an effect e is an entity c which is necessarily (avaśyambhāvitvena) present before e is produced.

According to Śrīharṣa, this definition doesn't work because it suffers from the problem of irrelevance (even though the problem also seems to arise for the previous proposal). It would predict that even intuitively causally irrelevant factors which are necessarily present before the production of an effect are causally relevant to the production of that effect. For instance, it predicts that just as the threads that constitute a cloth are causally relevant to the production of the cloth, so also is the color of those threads causally relevant to the production of the cloth, when it intuitively isn't.

In order to care of problems of this kind, one might modify this proposal in the following manner (KKh 705).

causation=invariable conjunction ii* A causal condition relevant to the production of an effect e is an entity c which is necessarily and non-superfluously (ananyathāsiddhatvena) present before e is produced.

A proposal of this kind was possibly first defended by Śaśadhara (fl. 1125 CE), and became popular amongst later Nyāya-Vaiśeṣika philosophers. Non-superfluity (ananyathāsiddhi) is defined as the property of not being established otherwise, i.e., independently of the effect (kāryād anyaprakāreṇa na siddhiḥ). causation=invariable conjunction ii* is supposed to take care of the problem of irrelevance. The general thought is that factors that are intuitively causally irrelevant to an effect are established not on the basis of the effect, but on the basis of something else. For example, the color of the threads is established on the basis of the threads themselves, and therefore established independently of the effect.

But this move won't work (KKh 705–706). There are two salient ways of interpreting the definition of non-superfluity, depending on how we

understand the notion of "establishing" (siddhi). According to the first, a non-superfluous condition is one which isn't brought about independently of the effect (kāryād anyaprakāreṇa na niṣpattiḥ). But clearly a causal condition isn't brought about by the effect; rather, it is the causal factor that contributes to the production of the effect! According to the second interpretation, a non-superfluous condition is one which isn't cognized independently of the effect (kāryād anyaprakāreṇa na jñaptiḥ). But if this is correct, then our definition of causal relevance should predict that we always become aware of causal conditions on the basis of their effects. That's just not true. Sometimes, we infer the existence of rain-bearing clouds on the basis of rain, but at other times, we know it simply by looking up at the sky. Setting aside these interpretations, one might claim that a condition that is non-superfluous with respect to an effect is one which isn't brought about or known in any way other than as a causal condition relevant to that effect. But then the definition would be circular; for, now, in trying to define the notion of a causal condition, we are appealing back to that very notion.

As in the case of knowledge, Śrīharṣa is eventually led to consider the question of whether we should treat the property of causal relevance (kāraṇatva) as primitive. Could we define a causal condition as just that which possesses the property of causal relevance? Śrīharṣa says that this would only be a reasonable strategy if there were some independent reason for thinking that there is such a property. But neither perception nor inference gives us any reason to believe this. Here, Śrīharṣa addresses an argument—offered by Udayana in The Flower Offering of Reason (Nyāyakusumāñjali) 1.5—for the claim that the existence of causal conditions can be established by a form of inference. Udayana's main premise is that any putative effect is an occasional (kādācitka) entity, i.e., an entity that only arises at certain times and not at others. In order to explain this occasionality, we need to posit a causal condition that brings the putative effect into existence. If that were not the case, then the production of the putative effect—its coming into existence (bhavana)—wouldn't depend on anything; then, it would be produced all the time (Upādhyāya & Śāstri 1957: 51).

Śrīharṣa offers two responses to this simple, yet powerful, argument. The first response takes issue with the notion of explanation that Udayana invokes in his argument (KKh 715–716). Śrīharṣa subscribes to the following principle.

Principle of explanation If a property X explains a property Y, then X and Y must be properties of the same entity.

The intuitive motivation for this principle seems to be that we cannot explain the property Y possessed by an entity e by appealing to a property X possessed by a completely distinct entity. For instance, in order to explain Devadatta's obesity, we shouldn't appeal to the gluttony of some person other than Devadatta, but rather to Devadatta's own overconsumption of food. But Udayana is essentially trying to explain the occasionality of a putative effect by appealing to the property of causal relevance that something else possesses. This violates the principle of explanation.

Now, one might attempt to resolve this problem by pointing out that just as putative effects are occasional entities, i.e., they appear now and then, so also are all their causal conditions occasional entities. So, causal relevance and occasionality can indeed be properties of the same entity. Thus, there is no violation of the principle of explanation. Śrīharṣa shows that this leads to an infinite regress of explanations. To explain the occasionality of a putative effect, we appeal to another occasional entity, namely its causal condition. But then in order to explain the occasionality of this causal condition, we would have appeal to yet another causal condition, thus launching us on an explanatory regress.

However, the Nyāya-Vaiśeṣika philosopher might bite the bullet on this challenge. She might say that not all cases of explanatory regress are bad, so there is no harm in positing a beginningless chain of causes and effects. In response, Śrīharṣa is happy to grant that not all explanatory regresses are vicious. But if an explanatory regress involving occasionality and causal relevance is to get off the ground, we would have to cite at least one case where the occasionality of a putative effect e is in fact explained by the causal relevance of a distinct entity c. The Nyāya-Vaiśeṣika philosopher is yet to show that; in fact, she is appealing to the infinite explanatory regress in order to establish that claim.

Moreover, even if one denies the principle of explanation, there is second, much shorter, response to Udayana's argument. In Udayana's argument, the occasionality of the putative effect is the explanandum, while the causal relevance of the causal condition is the explanans. Śrīharṣa asks whether there is a relation between these two properties. If there is no relation, the explanandum could indeed obtain without the explanans. In that case, the explanation wouldn't really work. If there is a relation, Śrīharṣa could offer another regress argument that applies to relations in general. The thought is this. Suppose there are two entities a and b such that whenever b occurs, a also occurs. So, there must be a relation R between a and b that explains this pattern of co-occurrence. The question is this: How is R related to a and b? If we say that there is no further relation R* by which a or b is related to R, then, again, we would be unable to explain the correlation between a and b. If we acknowledge that there is such a relation, we could ask again how a or b is related to R*. Thus, an infinite regress will be unavoidable.

14.2.2 Distinctness

Śrīharṣa's discussion of distinctness—the property in virtue of which an object is recognized as distinct from another—is deeply connected with his commitment to a form of non-dualism. In the first chapter of The Sweets of Refutation, Śrīharṣa raises the question of how one knows that the self alone is ultimately real. The answer is simple: the Upaniṣads—insofar as they literally proclaim that there is no plurality of objects in the world—provide evidence for this claim. But this answer runs into trouble pretty quickly: the Upaniṣads cannot be trusted with regard to their literal content, since that content is contradicted by the deliverances of perception. The world, as we see it, is populated by a plurality of objects (KKh 74). It is this objection that motivates Śrīharṣa to argue against the ultimate reality of distinctness of objects.

Śrīharṣa offers several arguments against distinctness, the first and the most important of which appears in the first chapter of the Sweets of Refutation (for a more elaborate treatment discussion, see Phillips 1995: 103–110). Śrīharṣa claims that distinctness of one object from another must either be (a) the very nature of the object (svarūpa), (b) mutual

absence (anyonyābhāva), (c) difference in properties (vaidharmya), and (d) something else, like separateness (pṛthaktva). Proposals (a), (b) and (c) are accepted by Nyāya-Vaiśeṣika philosophers such as Udayana (Śāstrī 1940: 255), and (d) is accepted by Bhāsarvajña (Yogīndrānanda 1968: 160) and Bhāṭṭa Mīmāṃsakas (Kunhan Raja & Sastri 1933: 242). Śrīharṣa's contention is this: Irrespective of how we define distinctness, no awareness—perceptual or otherwise—can present one object as distinct from another, without also presenting them as non-distinct (KKh 96–110). This, in turn, shows that even perceptual awareness of distinctness cannot contradict the Upanisadic testimony about non-distinctness of all objects.

Consider, for instance, proposal (a): namely, the distinctness of an entity x from an entity y is just the nature of x. Now, note that the distinctness of an entity x from an entity y is a relational property of x, i.e., x has that property only in virtue of being related in some way to y. But this relational property is constituted by y. So, if this relational property is the very nature of x, then y constitutes the very nature of x. By similar reasoning, if y is distinct from x, and this distinctness is a relational property of y, then x constitutes the very nature of y. For any two entities x and y, if x constitutes the very nature of y and y constitutes the very nature of x, then they are identical. Thus, Śrīharṣa arrives at his desired conclusion: a perceptual awareness of the difference of a cloth from a pot, would also reveal that the pot and the cloth are in fact identical.

Now, take proposal (b): namely, that distinctness consists in mutual exclusion. In treating distinctness as mutual exclusion, Śrīharṣa's opponent essentially has said that to ascribe to an entity x the distinctness from y is to ascribe to x an absence of the property of being identical to y. But this raises a problem for his Nyāya-Vaiśeṣika opponent: by the Nyāya-Vaiśeṣika philosopher's own doctrine, the counter-positive (pratiyogin) of an absence—the entity that an absence is an absence of—must be ultimately real. For instance, according to the Nyāya-Vaiśeṣika philosopher, it makes no sense to say that there is an absence of turtle-fur on the ground (since turtles don't really have fur), but it does make sense to say that a turtle doesn't have fur (since fur in fact does exist). So, if a cloth is to be characterized by the absence of the property of being

identical to a pot, the cloth's identity with the pot must be ultimately real. Once again, Śrīharṣa gets what he wanted: a perceptual awareness of the distinctness of a cloth from a pot would also reveal the identity between the pot and the cloth.

A similar result can be obtained for proposal (c) by means of a regress argument. According to proposal (c), distinctness consists in a difference in properties. If the distinctness of the pot from the cloth is a matter of their having different sets of properties, then we must ask what it is in virtue of which the relevant properties are recognized as distinct. If it's because the properties have different sets of higher-order properties, then we will be launched on a regress; for we can raise the same question with respect to these properties. In order to stop the regress, if we say that some of the distinguishing higher-order properties needn't themselves have distinguishing higher-order properties, then we would end up with the result that the entities lower down in the hierarchy cannot be really be recognized as distinct. So, the pot and the cloth will be presented in awareness as non-distinct or identical.

The same line of reasoning will also apply to proposal (d), which claims that distinctness is a matter of possessing a property like separateness. If the pot is distinct from the cloth in virtue of possessing the property of cloth-separateness, and the cloth is distinct from the pot in virtue of possessing the property of pot-separateness, then we may ask what is it in virtue of which pot-separateness and cloth-separateness are distinct properties. This will launch us on a regress. In order to block it, we would have to accept that the relevant separateness-properties are not really distinct; so, the cloth and the pot will turn out to be identical. That's exactly what Śrīharṣa wants.

Empiricus and Śrīharṣa on Methods

Greek philosophers did not recognize skepticism the way we understand it today. It was a way of life that helped its practitioners to suspend judgment in order to achieve an inner tranquility of mind. Skepticism did not arise in Greece as a rejection of the external world, and unlike its contemporaneous counterparts, doubt was not a central piece of skeptical practice in classical Greece (Mates 1996, 5-6). In this regard, the project of Empiricus is not radically different from that of Nāgārjuna or Śrīharṣa.

Śūnyatā for Nāgārjuna and the Brahman for Śrīharṣa are not some dogmatic constructs that they defend by means of skeptical arguments. On the contrary, by means of suspending beliefs and questioning the epistemic systems, they find the foundational Śūnyatā or the Brahman unchallenged. There are parallels with "The Five Modes" of Empiricus and the arguments of Nāgārjuna and Śrīharṣa. Borrowing from earlier philosophers, Empiricus outlines that (1) we can reach an unresolvable impasse in a dialectical process due to disagreement, with both sides having an equally compelling argument. The lack of determining argument on one side, a vinigamanāviraha, is a quite common defect in argumentation, used both by Nāgārjuna and Śrīharṣa to buttress their arguments. Following the second argument, (2) infinite regress results when justifying one belief by another, which in turn requires yet another, or one system of justification by another. As has been evident in the previous section, this argument is foundational for both Nāgārjuna and Śrīharṣa in their dialectical practice. Accordingly, (3) things may appear relatively different to different subjects. Although this argument does not come in the sections examined above, it is commonly found in other sections of the works of Nāgārjuna and Śrīharṣa, that entities appear differently for different subjects. Accordingly, (4) when they failed to demonstrate a convincing argument, dogmatists incline to agree on a hypothesis that they deem worthy of accepting without justification. Both Nāgārjuna and Śrīharṣa categorically reject the self-justification of the system of justification. Nyāya philosophers are inclined to accept the pramāṇa system without scrutiny, a hypothesis that is not acceptable to either Nāgārjuna or Śrīharṣa. Eventually, (5) circularity ensues when pramāṇa requires the very pramāṇa for its justification. Śrīharṣa's opening sentence questions the axiomatic argument that rests on accepted precepts, or that claims to be the bedrock assumption. Although the parallels abound, this is not to argue that the presuppositions on which Nāgārjuna and Śrīharṣa raise similar objections to those of Empiricus are identical. On the contrary, this is only to demonstrate that their methods are similar in kind.

If Śrīharṣa's methods are after all skeptical, how would he respond to some of the contemporary criticisms? Hilary Putnam, for example, has

given an anti-skeptic argument in his chapter, “Brains in a Vat,” which can be paraphrased as:

P1: I do not know that I am not a brain in a vat in an otherwise empty world.

P2: If I do not know that I am not a brain in a vat in an otherwise empty world then I do not know that I am currently drinking water.

C1: So, I do not know that I am currently drinking water (Warfield 1999, 77).

To not propose a thesis, for both Nāgārjuna and Śrīharṣa, does not mean either (i) to maintain doubt, or (ii) to propose a negative thesis. If these two philosophers had to respond to the above arguments, I believe their argument would be something like this:

[Response 1]: I do not have a thesis. [So it is Putnam who is superimposing arguments onto Nāgārjuna and Śrīharṣa. So, there is neither P1 or P2, nor C1].

[Response 2]: The thesis, ‘This is a park,’ grounds on our convention or relational reality (vyavahāra or saṃvṛti). Neither Nāgārjuna nor Śrīharṣa denies that there is such a convention or empirical experience. Nāgārjuna demonstrates that this convention is relational, is a linguistic and cultural construct, and leads to the conclusion that truth is a mere construct, devoid of its own nature. Śrīharṣa, on the other hand, argues that this experience must be grounded on some metaphysical truth, but the way it is experienced and the way it is described cannot be determined by means of justification (anirvacanīya).

[Response 3]: If you say that ‘you are drinking water’ you could not be drinking water, as speaking and drinking are not possible at the same time.

Classical Indian polemics were brutal, and Śrīharṣa could actually say:

[Response 4]: What a moron!

Doubt is not the foundational ground of reasoning for Śrīharṣa. He never says he has a doubt. He is simply demanding justification for the beliefs that his opponents have. His is only the position that 'since there is no reason for presenting a hypothesis, I have no hypothesis.' And in this regard, his is not a different position from that of Nāgārjuna. This utter restraint from declaring a position, however, has not deterred Śrīharṣa from entering the ring of debate. The argument that a dialectical practice is not possible in the absence of affirming the system of justification is self-defeating because even this very proposition is used in a dialectical process in order to refute the opponent's rejection of the system.

As is well known, adopting a skeptical method does not make one a skeptic, and not all skeptics are alike. In the case of Śrīharṣa, there is a great resemblance in his arguments with those of Nāgārjuna, and for this reason it is tempting to compare further similarities in Śrīharṣa's methods with his Buddhist counterpart in particular and also with the Pyrrhonian skepticism for a broader understanding. Śrīharṣa's project is fundamentally to demonstrate that the world of convention is not determinable (anirvacanīya, not even that it is indeterminable), and for it to be not determinable there is something foundational, sat which also is cit, that is not challenged by the above arguments, as this does not stand as a thesis to be established but is a consequence of a logical reduction. While there is no doubt that he has exploited all the arguments against Nyāya dogmatism, he does distance himself from the Śūnyatā of Nāgārjuna, here, making emptiness as an unfounded hypothesis. Śrīharṣa's methods, needless to say, are enriched by the insights of Nāgārjuna, and KhKh is filled with instances where he seems more comfortable with the Mādhyamika dialectics than the dogmatic approach of Nyāya. And for this matter, both these philosophers are on the same boat, as far as their methods are concerned.

14.3 PHILOSOPHY OF MIND

Śrīharṣa is eager to point out that he is not skeptical of all commonsense ontological categories (KKh 62–63). Consciousness, for him, is ultimately real; only the world, insofar as it appears distinct from

consciousness, isn't. What reason do we have for treating consciousness as ultimately real? Śrīharṣa answers this question by defending a positive proposal about self-knowledge and intentionality. This section discusses that proposal.

14.3.1 Self-Knowledge

Śrīharṣa's view, in a nutshell, is this. All conscious mental occurrences are self-intimating: when someone is undergoing a conscious mental occurrence, that very mental occurrence constitutes a veridical awareness of itself. Therefore, an agent needs nothing other than a conscious mental occurrence in order to know consciousness is ultimately real. In this respect, Śrīharṣa endorses a form of reflexivism, a view commonly associated with the Yogācāra school of Indian Buddhism, on which conscious mental states are reflexively aware of themselves (Ganeri 1995, 2012; Williams 1998; Yao 2005; Arnold 2005; Garfield 2006; MacKenzie 2007, 2008; Thompson 2011; Kellner 2011; Coseru 2012: Ch. 8).

Śrīharṣa opens his defense of reflexivism with the following argument (KKh 41–42). Whenever a person undergoes a conscious mental occurrence, she neither doubts whether she is undergoing that mental occurrence, nor does she mistake that mental occurrence for a different one, nor does she become sure of its absence. So, the agent must have a veridical awareness that the relevant mental occurrence exists. Now, suppose conscious mental occurrences don't constitute an awareness of themselves. Hence, an agent can only become awareness of such conscious mental occurrences by some other means, e.g., on the basis of some episode of higher-order awareness. If this were the case, then it would be possible for the first-order conscious mental occurrence to be present without there being any higher-order awareness of it. But then the agent could doubt or be mistaken about whether she is undergoing the relevant conscious mental occurrence. In order to block this conclusion, therefore, we must accept the conclusion that conscious mental occurrences constitute a veridical awareness of their own existence. An agent needs nothing further in order to know that such occurrences are ultimately real.

However, this argument doesn't seem great. The Nyāya-Vaiśeṣika philosopher, who thinks that our awareness of our conscious mental occurrences always involves an episode of introspective higher-order awareness, could offer a different explanation of why we cannot doubt or be wrong about whether we are undergoing certain conscious mental occurrences. She could say that whenever an agent is in a conscious mental state, there is a veridical higher-order awareness-episode in virtue of which the agent is aware that she is undergoing the relevant mental occurrence.

Śrīharṣa responds to this objection with a regress argument. Suppose an agent is undergoing a conscious mental occurrence. Ordinarily, when we are aware of a conscious mental occurrence, we are also aware that we are aware of it, we are aware that we are aware that we are aware of it, and so on. Since the "higher-order awareness" (henceforth, HOA) theorist explains such awareness of one's own mental occurrences by appealing to episodes of higher-order awareness, she faces a choice: either she should posit an infinite hierarchy of such episodes of higher-order awareness, or she shouldn't. If she takes the second route, she would have to say that for any conscious mental occurrence, an agent is aware of that conscious mental occurrence, and aware that she is aware of that mental occurrence, and aware that she is aware that she is aware of that mental occurrence,…, and so on, until she reaches some higher-order awareness-episode which isn't the object of any further higher-order awareness-episode. But if that is the case, the agent can indeed doubt whether that final higher-order awareness-episode exists. On that basis, she can doubt the existence of the higher-order awareness-episode that the final higher-order awareness-episode has as its object, and so on. In this way, the agent can indeed come to doubt whether she is undergoing to the relevant conscious mental occurrence. Therefore, the HOA theorist must posit an infinite hierarchy of higher-order awareness episodes. But then there will be a regress. So, the HOA awareness theorist cannot really explain why conscious mental occurrences are immune to doubt (KKh 43).

This regress argument isn't airtight either: the HOA theorist might just reject the premise that conscious mental occurrences are not subject to

doubt or error. She might just be comfortable with the claim that sometimes, even though we are undergoing a certain conscious mental occurrence, we are not aware that we are undergoing that conscious mental occurrence. Śrīharṣa thinks that this move will be difficult to pull off.

In response, Śrīharṣa offers an argument that starts out from the following principle:

Awareness-existence principle If an agent is not aware of her own awareness-episode e, then she cannot rationally ascertain that the object that e is about exists.[23]

The awareness-existence principle is a principle about rationality: it says that a rational (prāmāṇika) agent—i.e., someone who doesn't overstep the bounds of her evidence (pramāṇa)—cannot be sure that the object of her awareness exists if she is not aware of her own awareness. This is because in order to ascertain the existence of the object of her awareness, the rational agent will have to cite evidence for the existence of that object. But in the absence of any awareness of her awareness, she won't be able to appeal to her own awareness as evidence for the existence of the object. As a result, she won't be able to ascertain that the relevant object exists.

Śrīharṣa's final argument is this (KKh 45–46). It is uncontroversial that even in rational agents, conscious awareness-episodes can be action-guiding: a rational agent's conscious awareness of an object is capable of making her engage in physical and linguistic behavior under the presupposition that the relevant object exists. For instance, a rational agent's perceptual experience as of there being a chair before her could motivate her to perform certain chair-related linguistic and physical acts, e.g., saying, "That's a chair!", or trying to grab the chair and sit on it. However, if the agent weren't aware of her experience as of there being a chair before her, then, by the awareness-existence principle, she couldn't ascertain that there is a chair before her. And if she couldn't ascertain the existence of the chair, the relevant patterns of physical and linguistic behavior wouldn't arise. The upshot is that if object-directed conscious awareness-episodes, e.g., perceptual experiences, are to be action-

guiding in the case of rational agents, rational agents must be aware of such mental occurrences whenever they take place.

But now, if this awareness of awareness is an episode of higher-order awareness (as the HOA theorist intends it to be), then there will be a regress (KKh 45–46). Unless the HOA theorist posits an infinite hierarchy of awareness-episodes, by the awareness-existence principle, no rational agent will be able to ascertain the existence of her initial awareness-episode, and therefore also won't be able to ascertain the existence of its object. Since that's bad, the HOA theorist has to accept the conclusion that at least all object-directed conscious awareness-episodes of rational agents involve awareness of themselves. But if the HOA theorist is comfortable with this conclusion, it might just be better for her to accept the more general thesis that all awareness-episodes (or even conscious mental occurrences) involve awareness of themselves.

14.3.2 Intentionality

Śrīharṣa's reflexivism poses a challenge: How can a conscious mental occurrence constitute awareness of itself? According to a simple notion of intentionality, the object of an awareness-episode is always distinct from the awareness-episode. But if this view is correct, then conscious mental occurrences cannot be self-intimating. For if conscious mental occurrences were self-intimating, then awareness-episodes wouldn't be distinct from their own objects.

Śrīharṣa replies to this worry with a regress argument that is similar to F. H. Bradley's argument against external relations (Bradley 1893: ch. II):

The relation between an object and its awareness cannot be distinct from the nature of its relata. If it were distinct, then, on pain of regress, one would have to accept that the relation between the first relation and its relata is in the end identical to its own loci [i.e., its relata]. If this is right, one would have to accept that the awareness of this second relation arises without any awareness of a distinction between the relata and the relevant relation; for a relation that is identical to its own loci oversteps the limitations of other relations. Analogously, the relation between an object and its awareness obtains even in the absence of any distinction between its relata, and the awareness of that relation also arises without

any awareness of the relevant distinction. Where is the inconsistency? (KKh 56–57)

Here is the idea. Suppose an object a is R1-related to an object b which is distinct from a. Let us suppose that R1 is distinct from both a and b. If R1 is distinct from a and b, then R1 itself would somehow have to be related to a and b. But then we would have to posit another relation, R2, thus launching ourselves on an infinite regress. The only way to escape this regress would be to say that there is some relation Ri which is not distinct from its relata. But there is no reason to think that this relation isn't R1 itself. So, for any relation R, we may conclude that it isn't distinct from its relata. So, the aboutness relation (viṣaya-viṣayi-bhāva) that connects an object with its awareness also cannot be distinct from its relata. If the object is identical to the aboutness relation that connects it to its awareness, and the aboutness relation is identical to the awareness, then the object must also be identical to its awareness.

However, the Nyāya-Vaiśeṣika philosopher has a stock response to the regress argument Śrīharṣa uses to motivate his view: it is to posit a self-linking relation (svarūpa-sambandha). The underlying thought is that sometimes, when one entity a is related to another entity b, this state of affairs isn't decomposable into three elements which are distinct from each other, i.e., a, b, and a relation R that is distinct from both a and b. Rather, the relation R may just be non-distinct from either a or b. Yet, since it connects a or b to something else, it still remains a relation; it is thus a self-linking relation. This will block the regress argument that Śrīharṣa wishes to run. In The Discrimination of the Truth about the Self (Ātmatattvaviveka), Udayana endorses a view of this kind (Śāstri 1940: 224).

Aboutness The property of being about an object is the particular nature of an awareness-episode, namely, just its being-of-that-ness (prakāśasya sataḥ tadīyatāmātrarūpaḥ svabhāvaviśeṣaḥ).

The underlying thought is that the aboutness relation is a self-linking relation: it is the particular nature that an awareness-episode e possesses, namely, its nature of being an awareness of the relevant object o.

Śrīharṣa's main objection against this definition of aboutness involves a threat of idealism (vijñānavāda) (KKh 650ff). He points out that the

property of being-of-that-ness that Udayana speaks of is decomposable into two elements: the part picked out by the expression ‘that’, namely the object of awareness o, and the part picked out by “being of”, which corresponds to the relation R by which the awareness-episode is related to the object. If both these elements are part of the nature of the awareness-episode—the definition claims—then the object o wouldn’t be external to the awareness-episode e. The Nyāya-Vaiśeṣika view, therefore, would collapse into idealism!

Perhaps, the Nyāya-Vaiśeṣika philosopher could claim that it is not the object o that is the part of the awareness-episode’s nature, but only the relation R. This doesn’t satisfy Śrīharṣa. He points out that since R could be a relation with multiple instances and therefore could hold between a different awareness-episode e* and a different object o*, the fact that R is part of the nature of e wouldn’t explain why it constitutes an awareness of o. Perhaps, we could say that R also possesses a certain being-of-that-ness in virtue of which it is merely a relation between o and the awareness-episode e. This proposal, as Śrīharṣa seems to suggest, tries to explain the being-of-that-ness that the awareness-episode possesses, by positing another kind of being-that-ness in the relation R that connects the awareness-episode e with its object o. Quite predictably, therefore, Śrīharṣa asks whether this second variety of being-of-that-ness is part of the nature of the relation R, or external to it.

If this being-of-that-ness is part of the nature of R, a line of reasoning similar to the one that led to the worry about idealism could be run again. If the being-of-that-ness is part of the nature of the relation, then, since ‘that’ refers to the object here, the object too should be part of R’s nature. And since R is part of the nature of the awareness-episode e, the object o too should be part of the nature of e. Thus, the threat of idealism will arise again! (Moreover, if we say that o is not part of the nature of the relation R, but only some further relation R* is, then the same move could be made again, thus launching us on an infinite regress).

But suppose this being-of-that-ness that R has is external to R. What is that property? It cannot be anything distinct from (the nature of) the object of awareness o; if it were, then another regress argument could be run. So, let’s suppose this being-of-that-ness which R has is identical to

o. The question, again, is this: How is this being-of-that-ness related to R? If it is not related by a self-linking relation, an infinite regress will be unavoidable. If it is related by a self-linking relation, then the object o will be part of the nature of R, which in turn is part of the nature of the awareness-episode e. Thus, the problem of idealism will arise again.

More generally, Śrīharṣa's view is that there are no cases where the aboutness relation connects distinct objects. For him, ordinary aboutness relations that seem to connect distinct objects, e.g., the pot and its awareness, are ultimately unreal. What really exists is the self-intimating consciousness. So, there is nothing wrong with treating the relata of the aboutness relation as identical in every case.

14.4 THE FUTILITY OF INQUIRY

Śrīharṣa offers his refutation-arguments with the aim of undermining the dualistic ontology accepted by Nyāya-Vaiśeṣika philosophers. However, these arguments also serve another aim, which he gestures at, and which seems to drive many of the arguments in The Sweets of Refutation. It is to show that rational inquiry into the nature of reality—i.e., inquiry that proceeds through the exchange of arguments directed towards settling some question—is in fact futile.

14.4.1 The Paradox of Inquiry

Let us grant that Śrīharṣa's refutation-arguments are in fact successful in undermining the Nyāya-Vaiśeṣika project of defending a dualistic ontology on which the world is populated by things that are distinct from the self or consciousness. Can Śrīharṣa himself defend the kind of non-dualism that he endorses? Somewhat surprisingly, Śrīharṣa argues that inquiry into the question of non-duality—the question of whether only the self or consciousness is ultimately real—is futile. His argument is a version of Meno's paradox (Carpenter & Ganeri 2010). He imagines an opponent who asks, "What is the method of knowing non-duality, i.e., the non-distinctness of everything from the self?" The response is this: when asked by someone who rejects the doctrine of non-duality, this question doesn't make sense (KKh 69–73). The argument takes the form

of a dilemma: either the opponent is aware of what non-duality is, or she is not.

Focus on the second horn. If the opponent is not aware of non-duality, it will be impossible for her to perform the very speech act of asking the question that she in fact has asked. This is because, Śrīharṣa claims, the following principle holds:

Any speech act must be produced by an awareness-episode such that if the speech act is about an object o, the awareness-episode is also about that object o. (KKh 70)

But if the opponent isn't aware of non-duality, she couldn't perform a speech act on the basis of awareness of non-duality. So, she couldn't ask the relevant question at all.

Now, focus on the first horn. The question is this: If the opponent is aware of non-duality, does her awareness-episode constitute knowledge or not? If it does constitute knowledge, then the method by which that knowledge arises is the means of knowing non-duality. So, asking the question is futile. Now, an opponent might argue,

Yes, we have established in general that there is some way of knowing non-duality. But, given that there is a lot of disagreement, we haven't quite pinned down precisely which means of knowing would allow us to know non-duality. So, the task of the inquirer is to settle that question.

Śrīharṣa's reply is that this is a useless exercise. If we have already demonstrated in general that non-duality can be known, then that by itself entails that there is a particular method of knowing non-duality. In order to know what it is, we can either pick the best one amongst the already well-known methods of knowing, or posit a new one.

But now suppose the opponent says that her awareness of non-duality in fact doesn't constitute knowledge. But surely, says Śrīharṣa, if non-duality isn't an object of knowledge, then how could there be a method of knowing non-duality? Of course, the opponent could clarify her position by saying that she is just committed to treating her own awareness of non-duality as a case of non-knowledge, not her interlocutor's. Since her interlocutor—i.e., Śrīharṣa—is committed to thinking that non-duality can be known, she can indeed legitimately ask what means of knowing gives rise to the knowledge of non-duality.

Śrīharṣa's reply is subtle: even though he is committed to the doctrine of non-duality, Śrīharṣa denies that the burden is upon him to show that the method by which one becomes aware of non-duality is in fact a means of knowing. This is because, sometimes, an agent can become aware of the truth even by means of a procedure that doesn't yield knowledge, and therefore, doesn't count as a means of knowing. For instance, in Mist, the agent correctly infers the presence of fire on a mountain after mistaking mist for smoke. For some defenders of Advaita Vedānta, such as Maṇḍana Miśra (8th century CE), there is at least a structural similarity between cases of this kind and the case where an agent becomes aware of the non-distinctness of the world from the self on the basis of experience of hearing Upanisadic sentences that proclaim that non-duality (Kuppuswami Sastri 1984: 41; Thrasher 1993: ch. V; Ganeri 2007: ch. 5). As in Mist, in this case too, the agent moves from error to truth; for the experience of hearing Upaniṣadic sentences is laden with the differences amongst the hearer, the hearing, and that which is heard. Śrīharṣa seems to suggest here that the defender of non-dualism—committed as she may be to the claim that there is nothing in the world that is distinct from the self—needn't have to cite a method of knowing that will produce the knowledge of that truth.

14.4.2 Scripture and the Limits of Reason

In the last assessment, Śrīharṣa is happy to concede that the Upaniṣads—which literally proclaim that everything is non-distinct from the Brahman or the self—are the means of knowing non-duality. However, Śrīharṣa thinks that one cannot call Upanisadic testimony into question by appealing to perceptual evidence. The ordinary perceptual awareness of plurality, is incapable of defeating the awareness of non-duality that is generated by Upanisadic testimony. Neither can inference of any kind defeat that awareness of non-duality. For Śrīharṣa, this just shows that one cannot inquire further into the truth or the falsity of the doctrine of non-duality on the basis of evidence that is independent of Upanisadic testimony. As he puts it, that awareness of non-duality [produced by the Upanisadic sentences] cannot be refuted by the wise even by means of a hundred arguments (tarka). (KKh 118)

His advice to the Nyāya-Vaiśeṣika philosopher therefore is to withdraw from the project of inquiry and rather to adopt an attitude of faith (śraddhā) towards the content of the Upanisadic sentences.

You, who are fond of reveling in ignorance, ought to have faith in the doctrine of non-duality, presented to you by these arguments which, by your own lights, have the features of good reasoning. Consequently, your faith in the content of the Upaniṣads will induce in you a desire to know the self. Slowly, as your consciousness is freed from ordinary mental states, you yourself shall become acquainted with the ultimate truth, to which reflexive self-knowledge bears witness, and which is sweeter than honey. (KKh 120)

This passage is suggestive: it reveals that for Śrīharṣa, rational inquiry—unconstrained by faith in scripture—cannot be a guide to the truth. The professed goal of the Nyāya system was to lay down a system of rational inquiry which, irrespective of the domain of inquiry, would allow one to progress towards to the truth in that domain. But Śrīharṣa thinks this is impossible. On the one hand, his refutation-arguments are supposed to illustrate that such systems of rational inquiry are self-undermining: their own rules can be used to undermine the fundamental ontological and epistemological categories that these systems rely on. On the one hand, Śrīharṣa wants to show that we cannot even engage in inquiry in good faith, and that arguments presented in the course of such inquiry—framed independently of scriptural testimony—cannot have any defeating force against scriptural testimony. The best way of making progress towards the truth is to have faith in scripture, and let reason occupy a secondary place.

This attitude towards reason is something that Śrīharṣa shares with some other classical Indian thinkers (Murty 1959: pt. II ch. IV; Halbfass 1983: ch. II). In Of Sentences and Words (Vākyapadīya), Bhartṛhari claims that reason, without the guidance of scripture, is unreliable:

As in the case of the blind man who, guided solely by the touch of his hand, rushes down an uneven path, it is not rare for a person who relies primarily on reason to fall. (Subramania Aiyer 1976: 1.42)

But why is reason unreliable? The only clear argument that Bhartṛhari offers is an argument from instability: even if one presents a skillfully

prepared argument in favor of a view, the conclusion of the argument can always be undercut or rebutted; for it is possible that someone else who is more skilled at argumentation might explain the matter differently (Ibid., 1.34). Śaṃkara alludes to Bhartṛhari's argument while commenting on Aphorisms on Brahman 2.1.11:

Regarding matters that can be known from scripture, claims are not to be established by reasoning. This is because reasoning—when uninformed by scripture and based only on human imagination—lacks stability; for such imagination is unconstrained. Moreover, even when experts prepare arguments by employing imagination with care, such arguments may appear unsound to others who have greater expertise. Given that arguments imagined up by someone may later appear unsound to another, arguments cannot acquire any stability due to human disagreement. (Shastri 1980: 366–367)

Owing to this instability, reason alone cannot decisively establish anything; only reason informed by scripture (śrutyanugṛhīta-tarka) can (1980: 361).

Check Your Progress 1

Note: Use the space provided for your answer

1. Discuss about the Metaphysics.

……
……
……

2. What do you know about the Philosophy of Mind?

……
……
……

3. Describe the Futility of Inquiry.

……
……
……

14.5 LET US SUM UP

On at least one way of reading The Sweets of Refutation, Śrīharṣa's project is just to illustrate the instability of reason: for any argument the Nyāya-Vaiśeṣika philosopher may offer for their favorite ontological and epistemological categories, there is a refutation-argument that defeats it. The deliverances of reason—thus never immune to rational defeat—can only constitute inconclusive evidence. The important difference between Saṃkara and Śrīharṣa, however, lies in this. For Saṃkara, even on matters that are established by scripture, there is some room for inquiry, and reason informed by scripture can indeed help the inquirer understand the nature of ultimate reality. By contrast, Śrīharṣa takes his refutation-arguments to show that rational inquiry—whether or not informed by scripture—establishes nothing; faith alone can take us to the truth. Rational inquiry, for Śrīharṣa, is futile.

Śrīharṣa, c. 12th century CE, wrote the Khaṇḍana-khaṇḍa-khādya, considered to be one of the most difficult works in Advaita-Vedanta. The difficulty arises partly due to the extensive use of destructive dialectical methods to demolish dualistic views, and partly due to complicated Sanskrit language constructions. His other well-known work is the Naiśāda-carita, based on the story of Nala and Damayantī.

Śrīharṣa (श्रीहर्ष) is the name of a renowned scholar according to Dhīreśvarācārya (1851-1919 C.E.): a poet of modern Assam who composed Vṛttamañjarī. Dhīreśvarācārya says Śrīharṣa, a renowned scholar in the fields of Philosophy, Sāṃkhya, Yoga, Nyāya, Vaiśeṣika, Mīmāṃsā, Vedānta and acknowledged by many learned scholars and poets was the gotrapravartaka of the family of the poet.

14.6 KEYWORDS

Śrīharṣa : Śrīharṣa, c. 12th century CE, wrote the Khaṇḍana-khaṇḍa-khādya, considered to be one of the most difficult works in Advaita-Vedanta. The difficulty arises partly due to the extensive use of destructive dialectical methods to demolish dualistic views, and partly due to complicated Sanskrit language constructions. His other well-known work is the Naiśāda-carita, based on the story of Nala and Damayantī.

14.7 QUESTIONS FOR REVIEW

1. Discuss the meaning and impact of Śrīharṣa in Indian Philosophy.
2. Discuss the Paradox of Inquiry.
3. Discuss Scripture and the Limits of Reason.

14.8 SUGGESTED READINGS AND REFERENCES

- Granoff, Phyllis E., 1978, Philosophy and Argument in Late Vedānta: Śrī Harṣa's Khaṇḍanakhaṇḍakhādya, Dodrecht: D. Reidel. [Contains a translation of the introduction to Khaṇḍanakhaṇḍakhādya on pages 71–208]. doi:10.1007/978-94-009-9822-3
- Jha, Ganganatha, 1913 [1986], The Sweets of Refutation. An English Translation of the Khaṇḍanakhaṇḍakhāḍya of Shri-Harṣa, Allahabad: "Indian Thought Series". [1986 Reprint Edition: Delhi: Satguru Publications].
- Phillips, Stephen H., 1995, Classical Indian Metaphysics: Refutations of Realism and the Emergence of "New Logic", Chicago: Open Court. [Contains transations of the sections in Khaṇḍanakhaṇḍakhādya on dialectical reasoning on pages 151–156, knowledge on pages164–172, and distinctness and relation regress on pages 221–222.]

14.9 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. See Section 14.2
2. See Section 14.2
3. See Section 14.4