

A Report on the
**GAUDIYA
VAISHNAVA
VEDANTA**
Form of Vedic Ontology

HENRY P. STAPP

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**GAUDIYA
VAISHNAVA
VEDANTA**

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PART ONE

GVV form of Vedic Ontology

PREAMBLE

This is the first part of a two part report on the ontological content of Vedic philosophy as viewed from a scientific perspective. The aim of this part is to describe the essential features of Vedic ontology in a form readily comprehensible to Western scientists. The content of this first part is purely descriptive; no attempt is made to evaluate either the compatibility of this ontology with science, or its utility in scientific endeavors. Evaluation is reserved for part two.

The possibility that this ancient way of viewing Nature might be useful in science arises in the context of contemporary efforts to understand the empirically observed correlations between conscious processes and brain processes. Western science sprang from a sharp conceptual separation between mind and matter that was extremely productive. Presently, however, scientists are producing an increasingly detailed description of the physical and chemical processes occurring in human brains, together with a wealth of information about the correlations between brain processes, as measured by physical probes, and psychological processes, as reported by human subjects. To adequately coordinate this mass of new information we apparently need a conceptual framework that links psychological processes to physical processes: the sharp theoretical cleavage of mind from matter that triggered Western science, and sustained it for several centuries, is now widely perceived by scientists working in these areas to be inimical to progress, and their research is, accordingly,

producing a flood of conflicting opinions about how best to mend the Cartesian cut.

Science has its own methods of evaluating theoretical concepts, and these methods rest heavily upon empirical testing. However, the sources of inspiration for theoretical ideas are not correspondingly circumscribed: any source is permitted in principle. Still, certain kinds of sources are generally considered far more likely to produce useful theoretical concepts than others, and divine revelation, judged on the basis of past performance, would normally be regarded as an unlikely source of useful inspiration in science.

Starting from that consideration alone one would not expect the present study to produce anything useful in science. On the other hand, the contemporary efforts to comprehend the nature of the relationship between mind and matter differ in an essential way from earlier efforts to expand science: they bring into question the presumption of a complete disjunction between conscious processes and material processes. That separation was fruitful. Yet in the present circumstance it seems reasonable to try to develop a more general theoretical framework in which the earlier assumption of complete separation of mind and matter can be treated as simply a first approximation that is adequate over a specified but limited range of phenomena.

Efforts of scientists to generalize the present framework could tend to be blocked by their bondage to ideas that work well only in the approximation of a complete separation between mind and matter. To break free of such overly restrictive ideas it may therefore be useful to see things from another point of view, particularly if that other point of view is internally consistent.

The view of nature to be described below appears to be internally consistent and compatible with the available scientific data. It is essentially a phenomenalist theory, in which the entire universe is considered to be built out of things of the sort that we can directly experience, rather than out of atoms that are conceived to be intrinsically different in kind from conscious experiences. This phenomenalist theory has been articulated in considerable detail, and is the outcome of an intensive effort to synthesize the positions of the various camps of Vedic philosophy. Hence it can be said to have weathered a careful critical scrutiny of its internal consistency.

The ontology to be described is the product of one particular strand of Vedic philosophy. It is thus appropriate to give some idea of the position of this ontology within the broad landscape of the philosophies of India.

There are six main branches of Hindu philosophy that are Vedic in the sense that they rest on the authority of the Vedas and accept the Vedas as divine revelation. They are *Nyaya*, *Vaisheshika*, *Sankhya*, *Yoga*, *Karma Mimamsa*, and *Vedanta*. All six accept both the idea of an eternal soul that undergoes multiple incarnations, governed by a law of Karma, and the idea that this soul moves toward “liberation”. They also accept, to varying degrees, that there is a Supreme God.

Primarily, the Vedas give instructions about the regulation of human conduct. But these rules of conduct are rooted in an ontology: i.e., in a conception of what the world is made of, and how it is constructed and maintained. This work is concerned solely with the ontology. I do not cover the normative aspects of the philosophy, which concerns rules of conduct, and recommendations for behavior or attitude.

Of the above-mentioned six branches of Vedic philosophy, *Nyaya* is a system of logic and *Vaisheshika* builds on *Nyaya* to describe the material aspects of nature. *Sankhya* enumerates the various elemental categories that comprise the phenomenal world, while *Yoga* prescribes a process by which to disentangle the soul from the phenomenal world. *Karma mimamsa* emphasizes the ritualistic processes for attaining material well-being.

The most comprehensive of the six branches is *Vedanta*. It has two schools, the Personal and Impersonal or the *Vaishnava* and the *Mayavada* schools. The Vaishnava Vedanta school accepts a Personal God and purports to give a detailed account of reality in terms of God, individual souls, time, matter, and their relationships to each other.*

The Vaishnava Vedanta has four main schools—*Sri*, *Rudra*, *Kumara* and *Brahma*. A sub-branch of the Brahma school is called *Gaudiya Vaishnava Vedanta* (GVV). It is characterized as being in the line of descent of Vedic tradition that originates in Brahma and passes through Srila Vyasadeva and Lord Chaitanya. Srila Vyasadeva translated the Vedas from their earlier oral tradition into written form. According to the Vedic texts themselves and traditional Indian almanacs or *panchangas*, this recording was performed at the start of the present epoch called *Kali yuga*, 5091 years ago; modern scholars place this recording sometime during the few centuries preceding 400 B.C. The same author, Vyasadeva, then wrote a terse summary of the Vedas called *Vedanta Sutra*,

**The Mayavada school only accepts an all-pervading impersonal unitary plane of Consciousness as reality and holds all other categories such as matter, individual soul etc., to be illusion.*

consisting of only 570 one-line aphorisms. He then composed a commentary on the Vedanta Sutra called the *Srimad Bhagavatam*, which is considered to re-elaborate, authoritatively, the essence of the Vedas.

Lord Chaitanya is an historical person. He was born in 1486 and lived for forty-eight years, and is regarded within the *Gaudiya Vaishnava Vedanta* tradition as God Himself, disguised in the form of His own devotee.

The ontology to be described here was constructed in the following way. I first scanned the Bhagavad-gita and extracted a general idea of the Vedic ontology. In this reading I used the widely available English translation and commentary authored by A.C. Bhaktivedanta Swami Prabhupada. Then I entered into an intensive ten-day discussion with four Vedic scholars, provided by the Bhaktivedanta Institute in Bombay. The aim of this discussion was to correct and clarify my original understanding of the ontology and bring it into conformity with the GVV tradition. The basis of this effort was the Bhagavad-gita and the Srimad Bhagavatam, as translated and interpreted by Prabhupada. In these discussions I accepted as final the judgments of the four scholars as to the proper interpretations of these texts. The description of the ontology as given below represents, therefore, my effort to describe the GVV formulation of Vedic ontology as interpreted by these four scholars, whose names and positions are as follows:

1. Bhaktisvarupa Damodara Swami (Dr. T.D. Singh), International Director, Bhaktivedanta Institute
2. Banu Swami, Regional Secretary, ISKCON - South India

3. Satya Narayana dasa, Teacher, Bhaktivedanta Swami International Gurukula, Vrindaban, U.P. India

4. Rasaraja dasa (Ravi V. Gomatam), International Secretary, Bhaktivedanta Institute

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PRELIMINARIES

Before describing the GVV ontology itself I shall discuss certain terms and concepts that I will be using in my presentation.

GOD, KNOWERS, AND DIRECT KNOWING

A basic postulate in GVV is that there is a Supreme Person, called Krishna. This Supreme Person is eternal and He has various person-like qualities: He knows, He enjoys, and He has powers, or potencies, or energies, to cause things to happen. He is the cause of all causes, and is not caused by anything else. He has the capacity to know everything.

A second postulate is that there are innumerable living beings, called *jivas*. The *jivas* are qualitatively the same as Krishna, but are quantitatively different: they can know and can enjoy, and can make choices that influence the course of events in their lives.

A third postulate is that there is objectively real matter. A key question is then: What is the origin and nature of this matter, and to what extent can a *jiva* know something about it?

To describe the GVV answers let me first consider what I think I can know.

I might say, under certain conditions, that I know that there is

a red book in this room: I think I know this by virtue of the following circumstances: I am seeing it through one pair of sense organs, my eyes; I am feeling it through another sense organ, my skin; and I am contemplating it through my mind and intellect. That red book, which is situated in the room, but not within me, is called a sense object, or object of the senses.

Sometimes I get the impression that I “know” such a sense object *directly*, and that I know it exactly as it is. However, upon rational analysis I come to believe that the sense object in the room is something quite different from what I directly perceive. The thing in the room is composed (according to science) of atoms and molecules and electric fields etc., which I do *not* perceive directly. What I am directly conscious of is, rather, a mental or psychological representation of the red book. This direct sensation is often said to be “in my mind”, not in the room. The red book in the room is the source of a mass of information that becomes transformed, via a process not yet understood in science, into a certain conscious sensation, which I call “my experience of the red book”. This immediate sensation is different from the “external red book” composed of atoms lying outside my body. In this situation I may say that I *know directly* my experience of the red book, but have at most only indirect knowledge of the external red book.

Here I have introduced the concept of *direct knowing*: a person knows something *directly* if and only if he knows, or experiences, or is conscious of that thing *exactly as it is*. For a thing that is known directly there is no need for any further representation of it “in the knower”: any further representation would be superfluous.

Something that has the property that it *can be* known directly will be called an *objective experientable thing*. A thing of this sort could in principle exist without being experienced by any knower, but it has, by definition, the proper form to become *exactly* the experience of some knower.

GVV accommodates these ideas in a straight-forward way by making a clear distinction between the subjective conscious knower, the spiritual “I”, and a mental realm that contains certain things that he can know directly. This mental realm, in contrast to the Cartesian realm of mind, is material: it is constructed out of a subtle kind of matter. The introduction of this second material level, mind, provides, as will be shown later, a basis for coherently extending the mathematical methods of the physical science from the gross physical world into the realm of mind, while leaving intact the knower, or self.

According to GVV, the Supreme Person is directly knowable only by a devotional relationship. But for the purposes of this report I shall attempt to construct a partial theoretical description.

PERSONHOOD

In GVV ontology Krishna has the important property of being a person. Persons are generally knowers. But a person is more than simply an expanding body of knowledge. By *person* I shall mean, in this report, an expanding body of knowledge together with a certain internal potency or power that is a characteristic of that person, and that generates this continuing expansion. This individual characteristic potency will be called “His personality”.

Krishna is supposed to be, in this sense, a person. He is also the ultimate source of all causation. The *jivas* are taken to be persons in the same sense, only qualitatively: whereas Krishna's knowledge covers everything, the body of knowledge of the *jiva* is quantitatively much smaller.

EXPANSIONS OF THE GODHEAD

In GVV the Supreme Person, Krishna, has the potency to create forms of Himself called "expansions". He can, without diminishing Himself in any way, *expand* Himself by creating, out of His potencies and His body of knowledge, entities each of whom can have varying portions of His own creative potencies and knowledge. There are two kinds of expansions: *plenary* expansions and *jiva* expansions. The former are essentially the same as He, Krishna, whereas expansions of the *jiva* kind are the limited individual souls.

To get the idea of an expansion let me remark that just a few minutes ago I was on my way to my office and was thinking about what I was going to write. I became distracted, and looked down to find myself trying to open my office door with a wrong key. It would seem that there existed, in some sense, for some interval of time, two mental "me's". One was directing my unlocking of the door, and the other was thinking about what I was going to write. I might thus find it useful to think of the mental "me" who was directing the unlocking the door to be an "expansion" of my self that was specifically created by my thoughts to carry out the mundane task of getting me to my office, while "I" myself was thinking about more interesting things.

Situations such as this are familiar to everyone, and we can all therefore acquire an intuitive understanding of how a God

who exists in the realm of His own Absolute knowledge, and who has the power to control the expansion of His body of knowledge can create “expansions” of Himself to control the performance of special tasks.

This concept of an “expansion” of a God is fundamental to the GVV ontology. Hence it may be useful to give an analogy from the realm of mathematics.

Suppose I contemplate a set of points S such that there is exactly one point of this set S situated at each value of the coordinate variable x that satisfies the following condition: x is both greater than or equal to zero, and less than or equal to one. I then perform the following expansion: for each value x I take the point situated at the location labeled by x and move it to the location labeled by the coordinate value $2x$. This transformation takes the original set of points S to a set of points S' such that there is exactly one point of S' located at each value of x that is both greater than or equal to zero, and less than or equal to two. This set S' was constructed by merely moving each point of S to a new location: no new points were added. Yet S' contains within itself a subset S'' that looks just like the original set S : there is one point of S'' located at each value of the coordinate variable x that is both greater than or equal to zero, and less than or equal to one. If we take this exact copy of S away from S' we are left with a set T that is almost identical, apart from a displacement, to the original set S : T is the set of points located at values of the coordinate variable x that are greater than one and less than or equal to two. This set T is almost identical to a displaced version of the original set of points S : the original set S has just *one more point* - the point at zero. So we might say that we have produced an almost exact facsimile T of S out of S itself without adding any points and

without diminishing S. This kind of property of infinite sets is very familiar in mathematics and is dealt with all the time by mathematicians and physicists.

The purpose of this example is to bring out the idea that we are considering the process of creation (of the material universe) as a *process* occurring within a realm of Absolute knowledge, rather than within the realm of a conserved *substance*. We are adopting a point of view wherein the totality is considered to be a coherent, personified expanding body of absolute knowledge endowed with the power to control its own expansion, and specifically to produce (without diminishing Himself) *offsprings* endowed with those specific portions of the potencies of the parent that are needed to perform certain portions of the tasks of the parent. Within this framework we have the capacity to produce an orderly conceptualization of the process of creation in which *purposes* that originate in the Supreme Person can be brought to fruition by a hierarchy of processes that can become increasingly mechanical as one descends to the lower levels of processing. This approach of starting with a conceptualization of the whole, and then identifying entities involved in the lower-level process as “expansions” of the complete whole, is the reverse of, and perhaps logically superior to, the approach of trying to build up an organic whole from elemental parts—within each of which no trace of the whole inheres.

The basic process in the GVV ontology involves the creation of many expansions of the kind hinted at by the above remarks. According to this ontology the whole process of the creation and maintenance of the material universe occurs basically within the expanding body of Krishna’s knowledge, and every aspect of the process is controlled either directly by Krishna

Himself, or indirectly by the agency of His many expansions of Himself, each of which He (or some expansion of Himself) has created out of Himself for His own purposes.

THEORY OF EVERYTHING

Experiences are the only kind of things that we know exist. Since the purpose of science is to provide us with some useful way of conceptually grasping the knowable aspects of the structure of our experiences, and since science is guided by the principle of economy, it is not unreasonable, *a priori*, to try to take, as the fundamental constituents of our theory of everything, things of the kind that we can directly know or experience.

The concept of a Supreme Person, with everything else as simply some particular aspect of Him, provides a unified starting point for the construction of a picture of the totality of all things. Such a conceptualization of the totality of all things is different from the picture of nature provided by classical physics. The GVV ontology is *analytic*, whereas the classical-physics model of nature is *synthetic*. That is, the GVV conceptualization of the totality is top-down — it starts from the unified whole (the Supreme Person) and tries to identify component processes that exist and are defined only within the enveloping structure provided by the whole. In contrast, the classical-physics idealization is bottom-up — it starts from the idea of distinct elemental parts and seeks to represent the whole as aggregates of these independent elemental parts. This synthetic approach leads to problems at the level of mind (and of morality) and also at the atomic level. Examination of the difficulties at the atomic level indicates that certain wholistic aspects of nature are not adequately representable within the classical idealization: atomic theory (quantum theory) points to the

need for a conceptualization of nature that is far more unified than the one provided by classical physics.

A significant point about the GVV ontology is that this person-based idea of nature was developed in great detail, under the pressure of severe constraints: the detailed elaboration had to be brought in line with the whole body of existing Vedic scripture, in a way that was sufficiently coherent to withstand the attacks of rival camps. Considering the immense bulk of extant original Vedic scripture (at least 150 works) it is rather surprising that the task could be carried out at all. In any case, the result provides a model of a top-down ontology that systematically constructs both the material parts of nature and also the human mental processes from an original spiritual/mental starting point, rather than trying to construct mental things out of elemental material entities.

COMPARISON TO DATA

When I said in the preamble that the GVV model of reality seemed *compatible* with the scientific data I did not mean that the model met any scientific norms or standards. I meant only that basic ontology, as described here, probably could not be falsified by the scientific data. However, at the present stage of development the GVV ontology must, according to the norms of science, be regarded as highly conjectural. On the other hand, the GVV ontology does provide a reasonably coherent picture of an organically unified totality that has some points of contact with our experiences of the world.

In comparing the GVV model to the contemporary scientific model one important aspect should be borne in mind. The gross elements earth, water, fire, air and ether that appear in the

GVV model are not identical to their scientific counterparts. The five GVV gross elements are, as will be detailed, gross carriers of the five subtle elements— fragrance, taste, visual form, tactile touch, and sound. That is, the five gross elements are material off-shoots of five more subtle elements, that have the nature of “objective possible sensations”. This developmental arrangement, of sensation-like things first, and gross elements later, is completely natural in a theory that starts from the psychological whole and constructs the physical world as a projection of certain aspects of the original whole. The psychological elements should come first in such a conceptualization because it is they that belong to the original Supreme Person, who is pure spirit/consciousness/knowledge.

The world as viewed by the physical sciences is to be understood as a *mixture* of the GVV gross and subtle elements. Since the formulas that specify these mixtures are not immediately given by the GVV model, we do not have the immediate means of falsifying the model. One might try to devise some detailed way of checking the internal consistency of the model. But my aim in this first part of the report is only to describe the essential features to the GVV model, not to look for possible tests.

TIME

Before starting my description of the ontology one further point should be mentioned. It concerns time. In scientific theories time enters as a passive parameter that marks off the stages in the development or evolution of a system. It also allows for the description of motion. According to Galileo’s law of inertia, which was the beginning of the modern science of dynamics, bodies automatically move uniformly along straight lines unless caused to deviate by a disturbing action. In earlier

conceptions of nature *something* had to keep things moving. In GVV this agent is called time:

“I have explained to you well how eternal time is chasing the living entities, although it is imperceptible to them”.
(3.32.37)

“As a mass of clouds does not know the powerful influence of the wind, a person engaged in material consciousness does not know the powerful strength of the time factor, by which he is carried”.

(3.30.1)

“The influence of the Supreme Personality of Godhead is felt as the time factor”.

(3.26.16)

“Eternal time is the primeval source of the interactions of the three modes of material nature. It is unchangeable and limitless, and it works for His pastimes[activities] in the material creation”.

(3.10.11)

“The material process of cause and effect takes place entirely within a sequence of time; in other words, the time factor is the motivating impetus for material cause and effect. This time factor is a manifestation of the Supersoul, the form of the Supreme Lord that pervades and supports the cosmic manifestation”.

P(11.28.18)

THE GVV ONTOLOGY

In the following quotations (and those supplied above), a **triple of numbers** represents canto, chapter, and text from the **Srimad Bhagavatam (SB)** while **double numbers** represent chapter and text from the **Bhagavad Gita (BG)**. For example,

(3.26.3) — refers to Canto 3, Chapter 26, Text 3 of Srimad Bhagavatam, and

(9.7) — refers to Chapter 9, Text 7, of Bhagavad Gita.

The editions used are the Bhagavad Gita As It Is and Srimad Bhagavatam, translated with purports (commentary) by Srila Prabhupada and published by the Bhaktivedanta Book Trust, Los Angeles. I shall now describe the GVV ontology in words taken directly from the Bhagavad Gita As It Is and the Srimad Bhagavatam. I shall usually leave out phrases in the original that are not essential to my description of the ontology. Words from purport will be italicized as well as the text citation numbers will be prefixed by the letter 'P.' Occasionally, I shall insert some words of clarification. These are enclosed in square brackets.

CREATION OF MATTER

The Supreme Personality of Godhead is the Supreme Soul, and He has no beginning. He is transcendental to the material modes of nature and beyond the existence of this material world.

(3.26.3)

At the end of the millennium all material manifestations enter into My nature, and at the beginning of another millennium, by My potency, I create them again.

(9.7)

I shall therefore describe to you the pastimes[activities] by which the Personality of Godhead extends His transcendental potency for the creation, maintenance and dissolution of the cosmic world as they occur one after another.

(3.5.22)

The Personality of Godhead, the master of all living entities, existed prior to the creation as one without a second. It is by His will only that creation is made possible and again everything merges in Him.

(3.5.23)

Lord Krishna, by His plenary portion, appears as Vishnu, the original source of all material creation. He is never conditioned by the laws of material nature

P(1.9.32)

The condition of material nature immediately previous to its manifestation is called pradhana. [manifestation can be considered to follow closely upon animation, which is the impregnation of spirit in the form of the individual souls, because the world is manifest to the souls.]

P(3.26.10)

The aggregate elements, namely the five gross elements, the five subtle elements, the four internal senses, the five senses for gathering knowledge and the five outward organs of action [ten senses], are known as the pradhana. [when they are still in their

undifferentiated, unanimated, and unmanifest (invisible) state]
(3.26.11)

There are five gross elements, namely earth, water, fire, air and ether. There are also five subtle elements: smell, taste, color, touch and sound. [The gross elements are not identical to the physical substances that bear the same names. The subtle elements are of the material energies of Krishna. They are the objective forms of the correspondingly named sensations.]

P(3.26.12)

INJECTION OF INDIVIDUAL SOULS

The sum total of the living entities [individual souls] is impregnated into this yonir mahad brahma [pradhana], and they are born in different forms... [they become, in due course, endowed with material bodies]

P(3.26.11)

The Supreme Living Being in His feature as the transcendental purusa incarnation[Vishnu], who is the Lord's plenary expansion[responsible for the creation of the material universe], impregnates[with seeds that are the individual eternal souls, each carrying its own *karma*] the material nature of three modes, and thus by the influence of eternal time the [embodied] living entities [eventually] appear.

(3.5.26)

The offspring of any living being is born after the father impregnates the mother with semen, and the living entity floating in the semen of the father takes the shape of the mother's form. Similarly, mother material nature cannot produce any living entity from her material elements unless and until she is impregnated with living entities by

the Lord Himself. That is the mystery of the generation of the [embodied] living entities. This impregnating process is performed by the first purusa incarnation, Karanarnavasayi Visnu [Maha-Vishnu].

P(3.5.26)

Thereafter, influenced by the interactions of eternal time, the supreme sum total of matter [the material nature of Krishna/Vishnu after being animated by the impregnation of spirit in the form of the individual souls] called the mahat-tattva became manifested.

(3.5.27)

There after the *mahat-tattva* differentiated itself into many different forms as the reservoir of the would-be entities.

(3.5.28)

FALSE EGO

Mahat-tattva, or the great causal truth, transforms into false ego. The false ego is represented in three different modes[of nature]—goodness, passion and ignorance.

(3.5.29)

The material ego [false ego] springs up from the *mahat-tattva*, which evolved from the Lord's own energy. The material ego is endowed predominantly with active power of three kinds—good, passionate and ignorant. It is from these three types of material ego that the mind, the senses of perception, the organs of action, and the gross elements evolve.

(3.26.23-24)

This false ego is characterized as the doer, as an instrument and as an effect. It is further characterized as serene, active or dull according to how it is influenced by the modes of goodness, passion and ignorance.

(3.26.26)

MIND AND INTELLIGENCE

From the false ego of goodness, another transformation takes place. From this evolves the mind, whose thoughts and reflections give rise to desire.

(3.26.27)

By transformation of the false ego in passion, intelligence takes birth. The functions of intelligence are to help in ascertaining the nature of objects when they come into view, and to help the senses.

(3.26.29)

Doubt, misapprehension, correct apprehension, memory and sleep, as determined by their different functions, are said to be the distinct characteristics of intelligence.

(3.26.30)

The internal, subtle senses are experienced as having four aspects, in the shape of mind, intelligence, ego and contaminated consciousness. Distinctions between them can be made only by different functions, since they represent different characteristics.

(3.26.14)

The four internal senses, or subtle senses, described herein are defined by different characteristics. When pure consciousness is polluted by

material contamination and when [illusory] identification [of the soul] with the body becomes prominent, one is said to be situated under false ego. Consciousness is the function of the soul, and therefore behind consciousness there is soul.

P(3.26.14)

Egoism in the mode of passion produces two kinds of senses—the senses for acquiring knowledge and the senses of action.

(3.26.31)

The senses for acquiring knowledge and the organs for action number ten, namely the auditory sense, the sense of taste, the tactile sense, the sense of sight, the sense of smell, the active organ for speaking, the active organs for working, and those for traveling, generating and evacuating.

(3.26.13)

CREATION OF GROSS AND SUBTLE ELEMENTS

When egoism in ignorance is agitated by the sex energy of the Supreme Personality of Godhead, the subtle element sound is manifested, and from sound come the ethereal sky and the sense of hearing [ear, the organ].

(3.26.32)

Persons who are learned and who have true knowledge define sound as that which conveys the idea of an object, indicates the presence of a speaker screened from our view and constitutes the subtle form of ether [i.e. constitutes the subtle element that is carried by, or transmitted by, the gross element ether] [This ether is not the ether of physics. It is the carrier of

the subtle element called “sound” which is characterized as that which carries an idea from one person, the speaker, to another person, the listener.]

(3.26.33)

From ethereal existence, which evolves from sound, the next transformation takes place under the impulse of time, and thus the subtle element touch[objective tactile feel] and thence the air[the gross element occurring in this theory, not the physical air, which is a mixture of the gross elements] and sense of touch [skin] become prominent.

(3.26.35)

Softness and hardness and cold and heat are the distinguishing attributes of touch, which is characterized as the subtle form of air [i.e. as the (objective) subtle element that is carried or transmitted by the gross element air].

(3.26.36)

The action of the air is exhibited in movements, mixing, allowing approach to the objects of sound and other sense perceptions, and providing for the proper functioning of all other senses.

(3.26.37)

By interactions of the air and the sensations of touch, one receives different forms according to destiny. By evolution of such forms, there is fire, and the eye sees different forms in color.

(3.26.38)

The characteristics of form are understood by dimension, quality and individuality. The form of fire is appreciated by its effulgence.

(3.26.39)

Fire is appreciated by its light and by its ability to cook, to digest, to destroy cold, to evaporate, and to give rise to hunger, thirst, eating and drinking.

(3.26.40)

By the interaction of fire and the visual sensation, the subtle element taste evolves under a superior arrangement. From taste, water is produced, and the tongue, which perceives taste, is also manifested.

(3.26.41)

Although originally one, taste becomes manifold as astringent, sweet, bitter, pungent, sour and salty due to contact with other substances.

(3.26.42)

The characteristics of water are exhibited by its moistening other substances, coagulating various mixtures, causing satisfaction, maintaining life, softening things, driving away heat, incessantly supplying itself to reservoirs of water, and refreshing by slaking thirst.

(3.26.43)

Due to the interaction of water with the taste perception, the subtle element odor evolves under superior arrangement. Thence the earth and the olfactory sense [nose], by which we can variously experience the aroma of the earth, become manifest.

(3.26.44)

Odor, although one, becomes many—as mixed, offensive, fragrant, mild, strong, acidic and so on—according to the proportions of associated substances.

(3.26.45)

The characteristics of the functions of earth can be perceived by modeling forms of the Supreme Brahman, by constructing places of residence, by preparing pots to contain water, etc. In other words, the earth is the place of sustenance for all elements.

(3.26.46)

The sense whose object of perception is sound is called the auditory sense, and that whose object of perception is touch is called the tactile sense.

(3.26.47)

The sense whose object of perception is form, the distinctive characteristic of fire, is the sense of sight. The sense whose object of perception is taste, the distinctive characteristic of water, is known as the sense of taste. Finally, the sense whose object of perception is odor, the distinctive characteristic of earth, is called the sense of smell.

(3.26.48)

Since the cause exists in its effect as well, the characteristics of the former are observed in the latter. That is why the peculiarities of all the elements exist in the earth alone.

(3.26.49)

SUPERSOUL

By exhibiting His potencies, the Supreme Personality of Godhead adjusts all these different elements, keeping Himself within [the hearts of living entities] as the Supersoul and without as time [material causality].

(3.26.18)

... within the heart [of the embodied living entity] the Supreme Personality of Godhead resides as the Supersoul. This situation is also

explained in Bhagavad-gita: the Supersoul rests beside the individual soul and acts as a witness. ... This purusa, or Paramatma, who resides within the body of the individual soul, is described in Bhagavad-gita (13.23) as the upadrasta, witness, and the anumanta, sanctioning authority. The conditioned soul engages in the happiness and distress of the particular body given him by the arrangement of the external energy of the Supreme Lord. But the supreme living being [Supersoul], or the Paramatma, is different from the conditioned soul.

P(3.26.18)

[Figure 1 (on the following page) indicates in skeletal form the GVV conception of the process of the creation of the manifested cosmic world.]

PURPOSE OF CREATION

As explained in Bhagavad-gita (9.7), the material creation takes place at intervals by the will of the Lord, and in the periods between dissolution and creation, the living entities and the material energy remain dormant in Him.

P(3.5.23)

Although the spiritual existence was there with the Lord, the material existence was dormant in Him. By His will only is the material manifestation done and undone.

P(3.5.23)

The Lord wanted to create the cosmic manifestation to give another chance to the conditioned souls who were dormant in forgetfulness. The cosmic manifestation gives the conditioned souls a chance to go back home, back to Godhead, and that is its main purpose.

P(3.5.24)

PROCESS OF CREATION

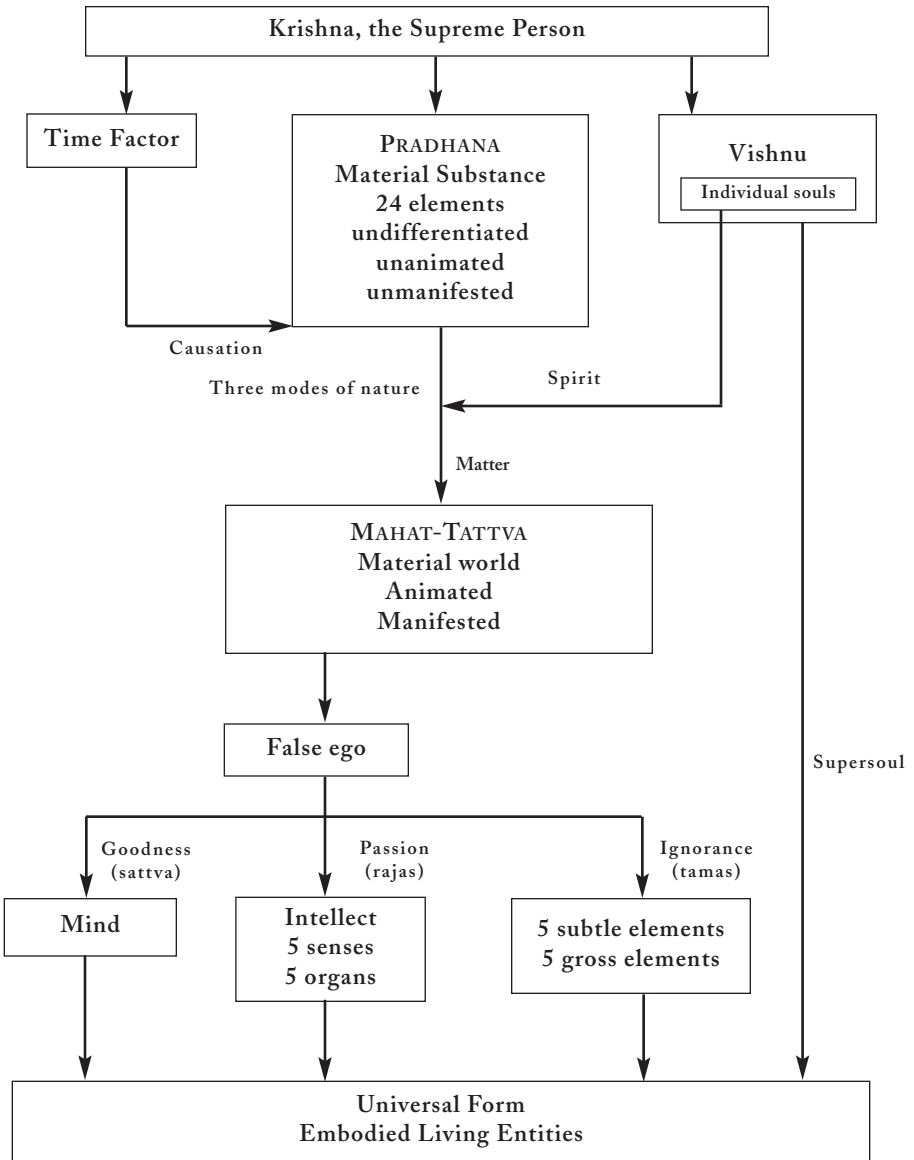


Figure 1

The whole process is to enliven the sleeping conditioned souls to the real life of spiritual consciousness so that they may thus become as perfect as the ever-liberated souls in the Vaikunthalokas [a spiritual realm inhabited by the individual souls who have never been attached to the (inferior) material aspect of the Lord].

P(3.5.24)

This external energy[though an existing part of the Lord] is known as maya or illusion [and indeed, she creates an illusionary representation of reality that the conditioned soul is inclined to accept as reality itself]

P(3.5.25)

Figure 2 (on the following page) indicates the flow of information from the gross levels of matter into the consciousness of the living entity. Its explanation follows.

The gross component of matter is shown in the bottom box. It is made up of the five gross elements, each of which is the carrier of the corresponding subtle element, which is causally prior to it. The subtle elements, for example, taste, fragrance, visual form, etc., are objectively experiencable things. The laws of material cause and effect control the movement of the gross elements and hence also the subtle elements inhering within them. The various information gathering senses catch the subtle elements inhering in the gross elements and pass them on to the mind which forms integrated thoughts, desires, and willful intentions.

The flow of information upward from the gross realm to the spirit realm is mediated by the subtle realm. In the subtle realm there is, in connection with each individual soul, a subtle

FLOW OF INFORMATION INTO INDIVIDUAL CONSCIOUSNESS

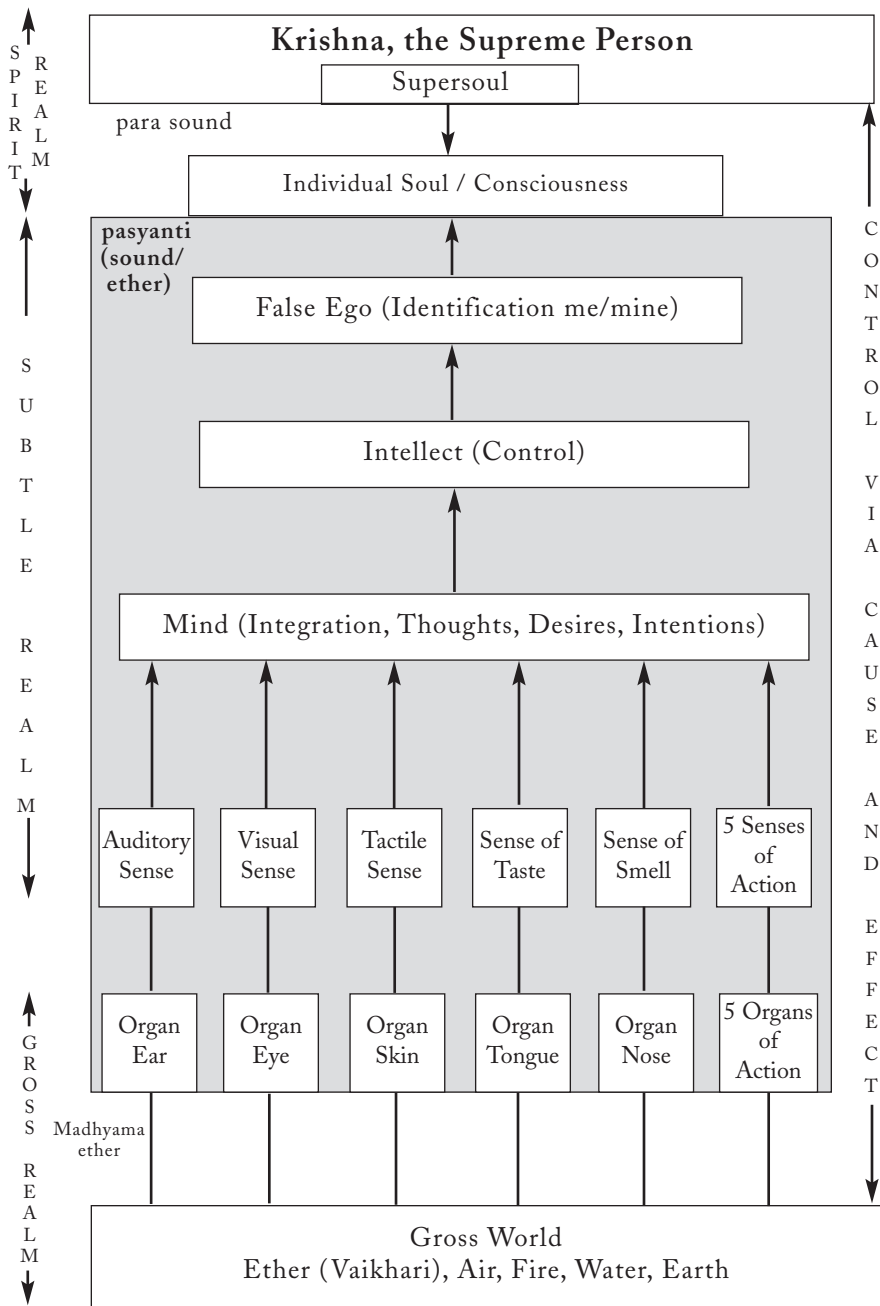


Figure 2

body. This body has ten senses—five for gathering the corresponding subtle elements (such as sound, taste, etc.) from the gross elements that carry them and five for initiating action. Thus there is, in association with each individual soul, a subtle body that establishes, via the false ego, a causal information-carrying link between the gross world and that individual soul.

The ten senses are subtle entities. For each sense, there is a corresponding gross organ which is constructed so as to catch the appropriate gross element and extract the subtle element (*tanmatra*) which inheres in it and transmit it on (via the ether) to the mind.*

The objective picture presented by the false ego to the soul, ostensibly as a representation of reality itself, is constituted out of the five subtle elements, which have the character (i.e. nature) of the five objective sensations (see Preliminaries), and hence are things that can be directly experienced by the individual soul. But, although composed of directly experiencable stuff, the picture presented to the individual soul by the false ego, like the picture presented on a television screen, may not be a true or faithful image of the reality that lies behind it. In particular, the false ego creates for the viewer (an individual soul) the illusion that he, the spiritual viewer, is the same as the gross and/or subtle body.

**It seems compatible with GVV to think of the 'gross organs' of perception as including not only the physical ear, eye, etc. but also the network of anatomical pathways leading up to and including the brain so that the brain can be thought of as a conglomeration of the five gross organs. Such a brain could be the pathway for the onward transmission of the objective elemental essences to the mind through the action of the ethereal element.*

INTERACTION OF MIND, BODY, AND SOUL(SELF)

One who can see that all activities are performed by the body, which is created of material nature, and sees that the self does nothing, actually sees. (13.30)

In conditional life the living entity actually remains as if a captive in the hands of material energy. Whatever the material energy dictates, the conditioned soul does. His material energy, is so forceful that it is insurmountable.
P(3.26.7)

... if he likes he can turn his face to the service of the Lord. The individual living entity is given that independence.
P(3.26.18)

The sky, due to its subtle nature, does not mix with anything, although it is all-pervading. Similarly, the soul situated in Brahman vision does not mix with the body, though situated in that body. (13.33)

As the sun alone illuminates all this universe, so does the living entity, one within the body, illuminate the entire body by consciousness. (13.34)

[This final text is to be interpreted as follows: much as sunlight can fall on a table and illuminate it, without the table entering the sun, so can I, the individual soul, directly know, or be conscious of, the thoughts produced by (or in) the mind without those mundane thoughts entering into the spirit realm.]

FOUR STAGES OF SOUND

According to Vedic knowledge, the Vedic sound is divided into four phases [para, pasyanti, madhyama, and vaikhari]... .. [The first] three of the divisions are internally situated within the living entity and only the fourth division [vaikhari] is externally manifested, as speech.

P(11.21.36)

[The following text is a translation by Rasaraja dasa of a passage in Hindi supplied by Satya Narayana dasa from *Tantra — Its Practices and Precepts* by Mahamahopadyaya Shri Gopinath Kaviraj, p 296]

“It is said in Vedic literature that at the *pasyanti* stage, there is no difference between the sound and its meaning. Whatever sound is heard, that itself is its meaning: whatever is the meaning, that is the sound. In the *madhyama* stage, there is simultaneous difference and no difference between the sound and its meaning, i.e., there is both difference and no difference, the balance being in favor of difference.

In the *vaikhari* stage, the sound and the meaning are different, yet they are related. This relationship however is purely by convention.

In the *para* stage of sound, even the question of the nature of the relationship between sound and its meaning does not arise, for in the spiritual plane, sound, meaning, and its knowledge do not separately occur.”

[Presumably, the *para* stage carries the communication between Supersoul and individual soul, whereas the *vaikhari* stage is the stage that operates at the gross level. The *pasyanti* stage

perhaps carries the communication from the subtle realm to individual soul, whereas the *madhyama* stage may carry the communication from the gross to the subtle realm.

Note that the material processes in GVV, although partially under the influence of the time factor (cause and effect at the level of matter), is not observer independent: the entire process is set in motion by the desires of the individual soul, and the gross elements themselves are projections of the subtle elements, which are objectivized forms of possible sensations or appearances. The entire material creation is built around, and for, the individual souls who are therefore central to the entire process, not peripheral or incidental.

The ontology is based on the concept of persons: the basic entities are various persons, namely, the Supreme Person, His plenary expansions, and His *jiva* expansions, the individual souls. Although the introduction of these persons introduces uncontrollable, and not completely describable, elements into the ontology nevertheless there do exist in both the gross and subtle (i.e. mental) realms, important causal aspects introduced by the agency of time. The remaining factors, the uncontrollable and not-completely-describable aspects of the model, are identified as “personalities”, rather than simply as uncontrollable and not-completely-describable impersonal features of the universe. This kind of image of the inscrutable aspects of nature holds out the hope that by keen observation of the behavior of nature one can penetrate ever more deeply into her modes of operation, even though a complete unfoldment is unattainable by such means.

I have described here only the basic skeletal structure of the GVV ontology: only the basic conceptual framework is given.

A tremendous amount of fine structure (supplied by the source material, the Bhagavad-gita and the (18 volume) Srimad Bhagavatam) is not covered. As noted previously, this report concerns only the ontology of GVV; it does not deal with the normative aspects of the philosophy.]

n n n

PART TWO

Evaluation of the GVV Ontology in the Context of Science

EVALUATION OF THE GVV ONTOLOGY IN THE CONTEXT OF SCIENCE

The aim of this part of the report is, first, to evaluate the GVV ontology as a possible resource for science, and, second, to suggest, if possible, some GVV-related research projects that might contribute to the advancement of science. An important characteristic of scientific thinking is that proposed additions to the edifice of science should be objectively testable. However, the GVV ontology rests on the notion of the personality of God which can be neither empirically controlled nor theoretically described. Indeed, the whole GVV ontology might be said to be, at least in first approximation, a way of viewing nature that concentrates the entire problem of comprehending reality in an inscrutable mystery: the mind of God.

Science, in this theistic way of speaking, can be regarded as an effort to unpack the mind of God in ways that reveal the regularities He has ordained for those parts of His creation that are tied to human experience. From that perspective the GVV ontology appears to be counter-scientific, for it consists, in part, of a *repacking* of certain things that science has, with great labor, managed to unpack. For example, Galileo's seminal insight that converted time from an active motive force to a passive parameter is reversed, together with the scientific recognition that our conscious experience of the external world should be understood as a response to a flow of information *from* the external sense objects *to* the seat of consciousness, the brain. In GVV, the information flows from the objects, but only up to the mental level, at which point consciousness reaches out to

directly perceive mental objects, the objectively experientiable stuff of matter. In partially reversing scientific advances in these areas, right at the outset, it appears, *a priori*, that nothing of value for science could be available within GVV. Moreover, a powerful impetus in science is the underlying commitment to the goal of trying to comprehend the structure of (the public portion of) human experience in terms of laws grounded in objective mathematical structure. This prime objective of science is antithetical to the belief that material nature is under the control of countless spirits, each with its own personal agenda: this more ancient view engenders and fortifies the belief that any attempt to comprehend nature solely in terms of lawful behavior is futile.

Having emphasized several of the problems that stand in the way of any serious effort to utilize GVV in the furtherance of science let me nevertheless identify some potential uses of the GVV ontology.

The ultimate aim of science should, in my opinion, be the development of a *unified* comprehension of the totality of nature, including man and his experience. The idea that all of nature is united has led in the past to enormous advances in science, and it can be expected to continue to do so in the future. Of course, those past developments, though immense in many respects, are tiny in comparison to any attempt to create an overview of the entire cosmos that unites human consciousness, purposeful design (to the extent that it exists), the role of man in nature and the connection of man to God.

It is generally good practice in Science not to bite off more than you can chew. According to this precept a huge leap of the kind mentioned above is almost certain to fail. On the other

hand, the greatest achievements of science such as the unification of celestial and terrestrial mechanics, the unification of light with electricity and magnetism, and the unification gravity and space-time could all have been viewed, prior to their achievement, as far too grandiose to succeed. Yet those examples show that giant conceptual leaps are sometimes needed in Science, to bring together phenomena that seem from the earlier viewpoint to be totally disconnected.

Science is now faced with the problem of incorporating human consciousness into its structure; with the problem of bringing together two apparently highly disparate aspects of nature: mind and matter. If one accepts the idea that a major restructuring of the basic conceptual framework will be needed to bring mind into science and that, moreover, a *unified* conception of all of nature is the ultimate aim, then it becomes not totally unreasonable to *consider* introducing also a partially comprehensible “mind of God”. Of course, He must be a God who normally abides by some rules; otherwise no science would be possible. But given the existence of an adequate description of some aspects of God’s knowledge, and a sufficiently precise formulation of the rules for how these particular aspects operate, there is no great difference, in principle, between formulating rules for how these aspects of God’s Absolute Knowledge behave and formulating rules for how various “substances”, or “particles”, or “fields” behave.

The great advances in science in the past 300 years were not, as it sometimes seems, achieved by banishing mind and spirit from our conception of nature. They were brought about by identifying certain aspects of nature that are subject to rational comprehension. If certain particular aspects of the Absolute Knowledge of the Supreme Person are controlled by rational or

mathematical rules, then we can do science just as well by using these particular aspects for our basic variable as by using quantum “fields”. In either case we human beings can never describe the totality of nature. Thus the essential move in science is not the creation of a description of everything. It is rather the identification of particular aspects of nature that we can describe and rationally comprehend *without describing everything*.

The possibility that certain aspects of God’s Absolute Knowledge are the appropriate variables for the next stage of science is not as far-fetched as it might at first seem. The wave function of quantum theory, to the extent that it represents not merely a tool of calculation for scientists, but also a theoretical representation of some objective (externally existing) counterpart, is probably most aptly thought of as a representation of some aspect of “Absolute Knowledge”. This wave function certainly does not represent “substance”, in the usual sense of the word. It represents only probabilities, or propensities, or objective tendencies, for certain observation-type events to occur. The probabilities for observation-type events to occur are more mind-like than substance-like in character: they represent a quality of nature that is more akin to knowledge and expectations than to fixed concrete reality. Also, the way that the wave function suddenly jumps to a new form (collapse of the wave packet) when an appropriate observation-type event occurs is a behavior more characteristic of a change in knowledge than a change in substance. Finally, the underlying notion of an observation-type event itself suggests a change in knowledge. Quantum theory thus effectively converts the scientific image of the objective world from that of the “giant machine” of classical mechanics to that of an evolving body of Absolute Knowledge; quantum theory,

insofar as it is construed to be more than just a set of mysterious rules of computation, can quite reasonably be said to have brought the mind of God back into science, after its banishment by Descartes.

Science enters a new phase once it has broken the “consciousness barrier”, and allowed itself to contemplate a description of nature that includes Absolute Knowledge and mental qualities such as experienced tastes and smells, etc. The basic problem is then to devise a theoretical picture of the totality of nature that includes the material and mental parts as describable features of a unified whole.

The GVV ontology could be conceivably useful in this connection. It constitutes a ready-made and reasonably coherent “theory of everything”. It is highly unified, since everything comes from, and resides in, the Supreme Person. The theory includes such diverse elements as Absolute Knowledge (God’s knowledge), objective forms of the sensible qualities of taste, fragrance, etc., human thoughts and mental processes, and, finally, a material aspect that is an off-shoot of Mind but carries matter-based causal connections.

GVV ontology differs significantly from the Cartesian conception of nature that underlies contemporary science. In GVV the mental realm is constituted out of *matter*. This matter, though subtle in form, is nevertheless objective. This materialistic way of conceiving the mind suggests that in our scientific description of nature we should describe in mathematical terms not only the part of nature associated primarily with gross matter, namely the physical world, but also the part of nature associated mainly with subtle matter, namely the mental world. If this suggestion is to be pursued then two key questions must be answered: (1) What

is the form of the mathematical description of the mental realm? (2) How are the mathematical forms that describe the mental and physical worlds related?

In GVV ontology the subtle and gross realms of matter (i.e. the mental and physical realms) are connected by etheric “sound”. Etheric sound is conceived of as a vibratory carrier of an idea. Thus the link between the physical and mental realms is understood in GVV as simultaneously a vibration in some subtle ethereal (i.e. idea-like) realm and a transmission of a unit of information (an idea of an object) from a “voice” in one realm to an “ear” in the other realm.

This ethereal sound has properties somewhat reminiscent of the probability wave of quantum mechanics. The latter corresponds, simultaneously, to a vibratory excitation in an “ethereal realm”, namely the space of “probabilities”, and to a transmission of an entire unit of “meaning”, in the form of a quantum of action. The meaning (i.e. the idea of an object) can be construed to be the coordinated changes in the sender and receiver associated with the idea of the emission and absorption of a “particle”. That is, in quantum theory the emission and reception events are conceived to be the emission and reception of a *particle*, even though the transmission is by means of a vibrating *wave*.

In this example the receiver is, for example, a single atom, and the receipt of the unit of information is represented by a change in the state of that atom from one (quasi) stable state to another. However, the idea that etheric sound carries an “idea of an object” could be applied also in case the receiver is a human being, who, upon receiving the message, mentally registers the idea of an object. In this case the mathematical description pertaining to the mental realm should be a

mathematical description of the directly known object, for directly knowable ideas are the currency of the mental realm, and it is they that must be described mathematically if the methods of the physical sciences are to be extended to the realm of mind.

There is no intrinsic reason why sensible qualities and the directly knowable “ideas of objects” cannot be represented in precise mathematical form. Indeed, when Niels Bohr speaks of descriptions in terms of ordinary language and classical concepts, there is, perhaps, an unexpressed implication that behind the mathematical description of the experience of the observer, in the language of classical physics, there is a mathematical representation also of the directly experienced mental objects themselves. For the quantitative information that we put into our classical physics description of the external objects ought to have some quantitative source within our knowledge. Moreover, the elements of the classical description in terms of the concepts of classical physics are, basically, merely abstractions and generalizations of directly knowable perceptual forms.

The mathematical representation of the objectified forms of a directly perceived “idea of an object” can be expressed as a three-dimensional image of the moving body and its changing environment. Values of sensible qualities, including their perceivable rates of change, would be assigned to the points of this space. In this sense we would have a classical-type description: various points in 3-dimensional space would be assigned numerically quantified sensible qualities, such as red-ness, green-ness, yellow-ness, sweetness, hardness, velocity, etc., instead of, for example, the strengths of the not directly perceivable electric and magnetic fields.

Such a representation of the mental and physical worlds, with the mental part (subtle matter) being represented in terms of 3-dimensional arrays of quantified sensible qualities, and the physical part (gross matter) being represented in terms of quantum concepts, would be generally in line with Bohr's approach. It would be an ontological reformulation of Bohr's epistemology in which the "description in terms of ordinary language" would be quantified and interpreted as an objectively describable (mental) part of reality. This would permit, at least in principle, a more mathematically precise description of the act of measurement because the observational event in the mind of the observer would now be represented in mathematical form rather than ordinary language.

Bohr's classical description was partially in terms of the mathematical concepts of classical physics. But this description is itself based on more primitive ideas that ultimately rest upon, and help to form, our perceptual experiences themselves. The nebulous aspect of the Bohr interpretation of quantum theory, which arises from the imprecision in the connection between our direct experiences and the description in terms of the concepts of classical physics, might in principle be removed if the theory were to include, as suggested by GVV, a mathematical description of an objectivized form of the directly perceived "idea of an object" that is actualized by the observational event. I am assuming here that the objective quantum event (the collapse) occurs in conjunction with a *mental* event; identification of the quantum event with a "classical" event in the external quantum world is difficult to justify in any rational way; it seems to be simply an obeisance to classical intuition.

I make no claim that this GVV-inspired approach to the quantum measurement problem (and hence to the problem of understanding the quantum world) will produce anything useful to science; I present it only as an example of direction of research that is suggested, I think, by GVV, and that *might* conceivably be useful in science in connection with empirical studies of the mind-brain system.

It is worth emphasizing that although the ideas outlined above were inspired by the theistic GVV, they involve in principle, contrary to what might be expected from a theistic framework, an *extension* or *enlargement* of the mathematical features of the theory beyond those encompassed by contemporary physics. The basic point is that GVV suggests *enlarging* the set of mathematically described elements of “physical” theory to include the objective forms of the sensible and perceptual objects of direct knowing, together with those aspects of Absolute Knowledge that are represented by the wave function of quantum theory. The inscrutable aspects of nature then get concentrated in the “personalities” of various entities, which can be separated to some extent from the associated bodies of knowledge. Since in quantum theory we have, in any case, the inscrutable aspect represented by the unanswered question “What chooses what actually happens in the individual quantum events?” no additional inscrutability need be introduced into the theory by introducing persons. Rather we have expanded the domain that is open to mathematical description by separating out the knowledge of these persons, which in principle can be described, from their “personalities”, which remain outside the framework of our mathematical description. The uncontrolled stochastic elements in quantum mechanics are

naturally to be assigned to the uncontrolled and undescribed “personality” factors of the GVV ontology.

A second connection to quantum theory can be made via the Supersoul, who is supposed to be present simultaneously in the heart of every living being. If one adopts the idea that the sound in the ether is to be interpreted as the quantum probability wave, which carries a unit of “knowledge” from emitter to receiver, then the Supersoul, who is a “universal witness”, and a “companion to each individual soul”, is the natural carrier or transmitter of the information that the message has been received by one receiver, and hence is not available to be received anywhere else by any other potential receiver. This change in the state of the universe is represented in quantum theory by the so-called collapse of the wave functions, which occurs everywhere in space, all at once. The instantaneous transmission of “information” associated with the instantaneous collapse of the wave function can be understood to be a consequence of the fact that the *same* Supersoul is simultaneously present in the heart of each knower.

By exploiting these points of potential contact with quantum theory a researcher might be able to formulate a coherent GVV version of quantum reality. Whether such a model would lead to any testable prediction that would go beyond the predictions of quantum theory is a question that cannot be reliably answered beforehand. The fact that experiences themselves are now represented within the mathematical structure makes it at least conceivable that a more evolved form of quantum theory could be devised that would be useful and testable in the study of the mind-brain connection.

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