Introduction
Introduction

Ayurveda is, basically a natural art whose origin can be traced to the instinct of self-preservation prevalent in all animals including human beings. It can be reasonably said that the medical knowledge to humanity has grown out of a vitally necessary and an essential need to overcome injury, sickness, wound, and pain. The instinct of self-preservation compelled the man to go for selective cultivation, animal husbandry, processing, mixing and cooking. This prehistoric art of discriminating among the substances on the basis of their usefulness or harmfulness for the immune system of human being forms the integral part of our indigenous medical knowledge system known as Ayurveda. In Ayurveda, the term *ayus* implies span of life and *Veda* means certain knowledge. Therefore, the term Ayurveda signifies prolongation of healthy life and prevention of disease.

Whenever we are in our pre-reflective or pre-critical mood, we are bound to believe that there does exist a physical world independent of our awareness about its existence. It is a simple and universal belief that is shared by all. But still it is one of the most difficult things in the world to prove this belief. The belief that I am typing on my laptop with the help of my own fingers and I am watching the typed words on the monitor of my laptop is the most certain belief to me right now but philosophers have been able to raise doubts even on it. The problem here is that we all have this shared feeling that this belief can proved to be true through rational means. We understand that this goal is very difficult to achieve but we approve that it is possible to achieve this goal. However, there are skeptics who argued that such a goal can never be achieved as the philosophers can only propound rival theories regarding the reality but a theory is nothing but only a very poor and inappropriate substitute of reality.

When our beliefs attain the status of knowledge? Normally, we believe that the status of knowledge can be granted to a cognitive claim when it is proved to be true. One essential task of philosophy is therefore to set a criterion which can set the limit to what we can know, and at the same
time some general characteristics of knowledge with the help of which we can demarcate between rationality and chaos. Such type of activity in the realm of western philosophy is known as epistemology whereas in the context of Indian philosophy such an activity coincides to a great extent with the *pramâṇa*-śāstra.

The *Pramâṇa* theory of Indian philosophy is the cornerstone of Indian epistemology. Broadly, this doctrine suggests that there are accredited means of knowledge or *pramâṇa* like perception, inference, testimony, etc. on whose basis we put forth our claims regarding what exists. Secondly, there are *prameyas* or knowables i.e. cognizable entities which constitute the world. Now *prameya* can be revealed by our knowledge-episodes. The means of knowing provide the adequate and sufficient evidence for the objects that we claim to know. In Indian epistemology, there is a general consensus among theorists regarding the episodic character of knowledge. Knowledge is a happening, or an event that takes place. It is a cognitive episode which is brought out by a set of causal factors. It is important to note here that not all cognitive episodes amount to knowledge. In other words, all cognitive episodes are not knowing-episodes. Only those cognitive episodes or mental episodes which are true can be said to be the knowing episodes. Knowledge is nothing but a true cognition manifesting the reality as it is.

Any discussion regarding the *pramâṇa* doctrine would be incomplete without mentioning the dual character of *pramâṇa*. A *pramâṇa* offers justification for regarding a cognitive episode as a piece of knowledge. At the same time, a *pramâṇa* is also considered to be the most effective causal factor that gives rise to a particular cognitive episode. A *pramâṇa* is said to be an instrumental cause or the most effective causal factor of the knowledge episode. It is interesting to note here that both terms *pramâṇa* and *prameya* are derived from the verbal root *mā*. The term ma implies ‘to measure’ or ‘to cognize’. *Prameya* is something that has to be measured
whereas *pramāṇa* is the measuring stick by means of which *prameya* has to be measured.

The epistemological position of Ayurveda comes very near to the *Nyāya* School of philosophy though metaphysically it appears to be closer to *Śāmkhya* School of philosophy. Nevertheless a significant influence of almost all schools of philosophy especially the Buddhism can hardly be denied. Coming back to our main concern here, Ayurveda prefers a realist ontology of *pramāṇas* like the *Naiyāyikas*. They agree with the epistemological principle of so-called naïve realism that we see physical objects, things directly and not through a veil of sense-impressions. Such a principle is further blended with the view that the world is exactly as we know it to be in our normal perception and inference. The outcome is the belief that our world-view is physicalist in the sense that the elements are physical items such as things and properties, parts and wholes. The point here is that such a world-view is brought closer to our pre-critical or pre-reflective or pre-philosophical intuition about the world. Such a world view attempts to accommodate our common-sense views. It holds that what the world really is coincides with what we perceive or infer under normal conditions. Such a strong belief of Ayurveda regarding the pre-reflective or instinctive belief in material objects is the novelty of Ayurveda and an attempt has been made in the very first chapter of this thesis to highlight this especially important aspect of Ayurveda. It will help us understanding clearly the central features of methodology and epistemology implied in Ayurvedic texts especially the *Caraksāṁhitā*. Ayurveda purports to give a description of the world that is not encumbered by observational conditionings, i.e. a correct description of how things actually are.

Another interesting feature of the doctrine of *pramāṇa-śāstra* as maintained by Ayurveda is that it maintains that no knowledge is possible independently of some perceptual ground or other. The above statement holds equally true in case of scriptural knowledge as well. The role of knowledge derived from the scriptures in Ayurveda cannot be
underestimated. Even the words of the great physician like Caraka and the great surgeon like Śusruta have been treated in the Ayurvedic tradition like scriptures. It is believed that all scriptural knowledge and the knowledge of an āpta puruṣa is ultimately based upon his or her direct, and immediate experience. The point here is that as Ayurveda believes that there must be some observational ground for all our knowledge, therefore, this system of knowledge basically upheld the general empiricists’ intuition. But it is necessary to point out here that the use of word ‘empricism’ in the Indian context should be used very cautiously as it may breed many conceptual misconceptions. In the west, this term is commonly used in the sense of being a counter-perspective to rationalism. Empiricism in the west from John Locke onward emerged in opposition to the rationalist doctrine that there are innate ideas in the mind and mind is not a tabula rasa. Broadly speaking, those who believe in innate ideas claim that abstract ideas, concepts can exist prior to sensory experience and they can provide us more certain and precise knowledge than obtained by our sense-based experience. Empiricism repudiates this claim of rationalism in its entirety. Therefore, the term empiricism is mainly seen as a thesis regarding the origin of ideas, or concepts. But this sense could not be associated with the doctrine of pramāṇa-śāstra as upheld in Ayurvedic texts. It is firmly believed here that some concepts or ideas or universals are mind-independent realities of the world even though they may not be the innate ideas in the mind.

Coming back to the scriptural knowledge as mentioned in Ayurveda, the knowledge-claims made there have some sort of empirical foundation. The veracity of these scriptural statements is derived from the trustworthiness and infallibility of its author. The author here is a person with perfect knowledge. The speaker must be an āpta or a trustworthy person. An āpta person is believed to be a person who has directly experienced the truth and is motivated by a desire to transmit what he has seen. It is very necessary to stress this point here that the model of a trustworthy person must not be seen in sectarian colors or in its theistic overtones. Anyone can
be called apta if it is allowed that the truth has been revealed to his intuitive insight. It is a well-known fact that the Buddhist physicians have been awarded with the status of āptapurūṣas despite their being non-committal on theistic issues. The point that is stressed in the very first chapter of the thesis is that the validity of sabda pramāṇa is based on a different sort of experience i.e. the intuitive insight of a vaidya.

In the second chapter, the central thesis is to highlight the holistic nature of Indian system of medicine vis-à-vis the mechanistic approach of the western system of medicine. Ayurveda is a holistic system of medicine that is deeply rooted in the Indian philosophy. The term holism has been derived from Holos – a Greek word for whole. In Ayurveda, the whole is seen as more than the sum of the parts. Ayurveda believe in the cure of the person himself and not just eradicating the disease itself. It visualizes a person at all the three dimensions of its existence, i.e. physical, psychological and spiritual. The ultimate aim of Ayurveda is the well-being of a person at all three levels of his existence instead of just achieving the disease-less state. Ayurveda firmly believes that the healing energy does exist in latent form in every being. This healing energy is capable of providing a repair and regeneration process for every injury and disease we might get afflicted with. The revitalization of this in-built healing mechanism is the central objective of Ayurveda.

In the next chapter, an attempt has been made to highlight the basic notions implied in the realm of medical science like health and disease and due emphasis has been given there to bring out the novelty of Ayurveda in context of these basic notions of medical science. Ayurveda is a Sanskrit word that is derived from two roots: Āyur, which means life, and Veda, or knowledge. Ayurveda is, basically, the science for longevity. The ultimate aim of Ayurveda is mundane happiness and spiritual elevation of man. The term Ārogya is quite often mentioned in Carakasaṅhitā as the goal of Ayurveda. Ārogya implies that a man should be happy at all the three levels of his existence, i.e., physical, psychological and spiritual. Therefore, the
concept of health is a comprehensive concept in Ayurveda that covers all aspects of the existence of man. It is because of this reason that Ayurveda developed into a comprehensive encyclopedia of knowledge.

In the next two chapters, an attempt has been made to elucidate the ethical and spiritual backdrop of our indigenous holistic system of medicine. It is very necessary to press an important point in passing so that it would become easier for a reader to understand the true significance of the last two chapters. The Indian way of looking at moral beliefs does not require a sharp dichotomy of facts and values. It is important to understand here that such a view is incompatible with what is known as non-cognitivism in present day’s moral philosophy. In the Indian context, a moral proposition becomes morally binding as it is believed that the required cognitive value of a moral proposition has been received the pure, unimpaired insight of the āpta. In the second last chapter, an attempt has been made to understand how the mystery of death has been the object of inquiry of the ancient Indian medical scientists. The interesting thing here is that Ayurveda try to understand this mystery under a spiritual backdrop and it has not been reduced to merely physical and physiological terms. The aim of the last chapter is to highlight some of the important points of the development of science that are intimately connected to man’s cultural life. With special reference to Ayurveda, an attempt has been made there to underline this close link between culture and science that helps us understand how cultural factors determine or control scientific thinking.
Chapter I

An Inquiry into the
Methodological aspect of
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Ayurveda, a widely popular system of Indian medicine with its historical legacy of more than 3000 years and a system which is still alive and hold great respect among the masses, applies a unique methodology for its diagnosis, prognosis, and therapy. The question of methodology is the most significant and pertinent because it tells us about the exact method or procedure which helps a practitioner in making definite predictions regarding diagnosis, prognosis and therapy. It might be helpful here to elaborate this point a little further to bring clarity regarding the subject-matter of this chapter. We may ask that how does a Vaidya, who practice Ayurvedic system of medicine, ascertain the curative power of any drug? How does he know that this drug has got the capacity to cure that disease? Similarly, how does a Vaidya with almost no mechanical apparatus or instrument at his disposal can exactly diagnose the disease? Since Patanjali’s yoga system and the Hindu system of medicine, that is Ayurveda, developed simultaneously, therefore, such type of questions are equally significant in context of yoga system as well. For instance, we may ask here how the founders of yoga came to know that so and so āsna or mudrā will produce such and such effect on our physical and mental state of existence. These and other similar kind of questions, though I am raising specifically in context of Ayurveda and yoga (here it may be mentioned that yoga is a sub-branch of Ayurveda), are equally significant for all the systems of medicine which claim to practice the holistic medicine.

Insight-based method of Ayurveda:

Ayurveda believe that there are certain facts of our life to which we are not normally awakened. But these phenomena are crucial for our survival as a living being. Moreover, these events are not accessible to our sense-perceptions. Reason also turns out to be helpless here. It will be discussed
later in detail regarding the role of reason in this realm of our existence. For the time being, it is sufficient to say that the reason is a harmonizing or controlling force rather than a creative one. The role of reason comes subsequently after we have some contents to work upon. The contents normally are acquired by means of sense-perceptions which do not seem to be possible here. Whence, then, we can know the truths regarding our deeper level of existence? The claim of Ayurveda is that we can have a direct encounter with such truths.

Before making a detailed analysis of the truth-claims of Ayurveda, it would be appropriate here to reflect a little bit on the problem we are facing. We know that there is a world of phenomena which we perceive by means of our sense-perceptions. If our sense-organs are functioning properly, and we are attentive to the external world, then a fleeting stream of data from the external world like something green, something hard, something extended, etc. continuously enters into our brain. We know that we have an access to another world, that is, the world of ideas. This world of ideas is accessible to us as, we, the predecessors of Homo-Sapiens, possess the faculty of imagination. We can envisage about the infinite number of logically possible worlds. But which of them is our world, or the world we live in. How can we ascertain ourselves that a certain idea explains a certain phenomena? Can we establish any precise connection between the world of ideas and the world of phenomena? Are we capable of knowing those connections? Or do we possess the capacity to perceive the truth directly?

The modern science (or the mainstream science) suggests that there are no rules of discovery and invention in science. It is believed that intuition certainly has a critical role to play in science. In a sudden moment of illumination, we acquire an insight into the reality. In that state of penetrating moment, we acquire certain clues regarding the nature of reality. The modern science has no explanation about how does it actually take place. Let us come to the question of the significance of such an insight in the mainstream science. It is normally believed that an insight is an instrument by means of which truth is first suggested. But at this level it is an insufficient
guarantee of truth. Only after it is rigorously tested by means of our experimental method, it becomes qualified to be a part of our knowledge. In short, the method of testing has been assigned the supreme place in the mainstream science. There is no independent method of knowing other than the method of testing.

It may not be difficult to notice that there are certain problems associated with this approach of modern science. The first charge that can be leveled against this approach is that the role of insight has been unduly undermined. To say that insight is nothing but a suggested idea fails to explain many facts. It fails to explain the psychology of the person at that very time while he was under the impact of the illumination of such an insight. It fails to explain the deep-rooted, penetrating, and coercive nature of an insight. It fails to explain the eureka experience which the person feels to whom the insight has descended despite the fact that no testing of his insight has been yet conducted. Its impact on the person to whom an insight has descended is very significant if we wish to understand the true nature of an insight. A seeker who is seriously pursuing his job to unravel the mystery behind the apparent phenomena may come across an idea which makes him spellbound, awestruck and totally subservient. He is not in a position to doubt the truth of that idea. In fact, this idea erases all doubts from his mind with which he was previously occupied. He was interested in the testing and experimentations to convince others (and not to himself) about the truth, that has revealed itself to him.

The modern science provides only the simplistic answers to these questions. It has been forgotten by the modern mind that the intuitive truths form the basic bedrock from where onwards reason can take-off and from where onward our sense-organs can perceive something that is of some value. For instance, our awareness to the truth that, 'a triangle is not a square' or the truth that, 'two is greater than one' or the truth that, 'red is not green' are neither based on our reasoning nor on our faculty of sense-observation. These truths (along with certain other truths) are prior to reasoning and form the very basis of our understanding and our capacity to
observe things by means of our sense-perceptions. Now, one can easily visualize what could have been the fate of our capacities to reason and observation in case we do not have an access to some basic truths by means of insight. They would have turned defunct. Furthermore, the most important truths whether in science or in mathematics and logic, occur to us by means of insight. Insight is the path-breaker, direction-giver and a creative force inside us. Even in the most purely logical realm, it is insight that first arrives at what is new.

One can raise here an interesting question which can pose serious problems for a believer in the reductive ways of the mainstream modern science. The question is: what is that which connects our insight or reason with the working of the nature or our surroundings? Are they wholly alien to each other? If they are really alien to each other, then how can we understand the working of our surroundings?

Our traditional system of medicine has an answer here which is needed to be taken seriously. It has been asserted in Ayurveda that our inner self is in deep-rooted harmony with our surroundings. Man is something more than himself, he is one with nature. This answer is not simply a proposal based upon speculations but rather a truth based on insight. The term insight, as has been implied in Ayurveda, is needed to be explained a little bit further. Insight is a kind of instinctual vision, or an internal perception, by means of which we can perceive the inner connections among things which are normally hidden to our sense-perceptions. These inner connections though are not contradictory to the perceptual relations but they are much more than that. Their range and scope is much wider. Informatively and content-wise, this world of inner relations is immensely rich and vivid.

Now, there is an important clue here regarding the methodology of Ayurveda. From the perspective of Ayurveda, there are certain general insights which are built-in our survival system. For instance, the truths regarding the organic needs and their satisfactions are built-in our survival system. We know that we need water to quench our thirst. We instinctually
feel the need of water whenever we feel thirsty. We also know, without applying our reason or performing any experiments, that only liquid intake can quench our thirst and not something else. An access to such insights is not the exclusive privilege of the human beings but it is available to all members of the animal world. But it is also true that human being is capable of going much deeper to understand these relationships.

For instance, when a tiger is hungry it will seek for animal flesh. It will not seek just anything or simply anything eatable, but something very specific, that is the flesh of some animal. Similarly, when an elephant (or some herbivorous animal) is hungry, it will seek for some plant or vegetation to eat. An herbivorous animal will not seek after some animal flesh even if it is dying of hunger. An animal suffering from a deficiency will travel long distances to find a salt lake, or vegetation containing the trace elements it lacks. The point we want to make here is that for any so and so organic need, there is such and such satisfaction available in the surroundings outside. The organism is instinctually aware of the specific relationship between the organic needs and their possible remedy because this truth is an inherent part of its survival system. Similarly, the relation between an ailment and its remedy in the surroundings, e.g., the herb which can cure it, is also ingrained in our human instinct. Therefore, we can have an instinctual vision or internal perception of the internal healing power of a drug.

Any number of illustrations or examples can be given to substantiate our argument. For instance, our knowledge of the truth that, ‘poison kills poison but fire does not kill fire’ is based on the credibility of our internal perception. It is certainly not based on the experimental evidences because nobody can think of burning him just to verify the fact that whether fire can kill fire or not. Similarly, it is said that Hakim Lukman, the great physician and a practitioner of unāni medicine, applied this simple method to ascertain the curative power of any drug. He straight away went to the plant and enquired from it about its possible use. It is said that the plant told him about the same. The message here is that we can internally perceive the truths related to the internal power of any drug. This is the method of Ayurveda to ascertain the
curative power of any drug. This is the method which Ayurveda applies for making judgments regarding diagnosis, prognosis, and therapy.

It may be helpful here to mention some relevant terms in classical texts of our classical Sanskrit tradition to demonstrate that our thesis has got wide support in the tradition. The term ‘swastha’ in Ayurveda means ‘to be one with the inner self’. The attainment of swāsthya for all is the objective of Ayurveda. Similarly the kind of knowledge we have mentioned above is known as ‘pratībha jñāna’ in the ‘yogasūtram’ of Patanjali. The ‘vibhūtipāda’ of Patanjali’s text is full of such instances in which this kind of knowledge and the method of its attainment have been described in detail. The term ‘sāmāyika-dhyāna’ in Jainism has similar connotations as well. Sam means equanimity, or a lack of disturbance. Sāmāyika is to be absorbed in the essence of oneself and thus quiet various disturbing states. The message behind all these illustrations is loud and clear: the most profound secrets of our life lies in the inner laboratory of our being and only that person can attain the status of a vaidya who is ready to enter into this realm of our existence.

The Possibility of a new methodology that can restore truth in it: An Ayurvedic Standpoint

Plato in his works mentioned a clear distinction between episteme and doxa. The former is the world of absolute truth and indubitable knowledge while the latter is the world of appearances and our knowledge in the realm of doxa is always partial, biased, and opinion-specific. Our faculty of reason has got the capacity to penetrate into the former world while the world of appearance is accessible to us by means of our sense-perception. In short, one is the world of mind while another is the world of our experience, the experience we acquire by means of our sense-perception. Plato never made an attempt to bridge the gap between these two worlds. Instead, he chose some other option. The objective before Plato was the attainment of impartial, absolute and perfect truth. The knowledge-claims
based on our sense-perception cannot lead us to absolute truth as they are quite often found to be illusory and deceptive. On the other hand, our faculty of reason is capable of seeing through such truths directly. In this way, Plato attained his objective by completely negating our faculty of sense-experience. This rationalistic tendency could not be acceptable to the empiricists who believed otherwise. For them, our sense-perceptions are the primary source of knowledge. The role of reason in the attainment of knowledge is a secondary role only. The role of reason comes into picture when we have some contents to work upon. Reason is a harmonizing or controlling force rather than a creative one. The contents always come by means of our sense-experience. With this clarity in their head regarding the role of sense-perceptions and reason, the forefathers of modern science moved further and promised to humanity to take them to the truth, or to the one which is “really there”, instead of making empty speculations about the possibilities. The mainstream science has given the humanity, a hope, a hope to know the truth. The time has come for us to have a look-back on the path we have traversed, the crossroad at which we are standing right now and the future path ahead.

The Present Scenario:

The analytical rigor of our present day sciences is mind-boggling. Our sciences (whether physical sciences or biological sciences or else) have been so heavily mathematized that the role of experience has taken a backseat. Once the reason is allowed to make a take-off with no corresponding ground in the experience, it may not be difficult to envisage the situation where it would lead us to. The present situation is like that only. We have multiple theories to explain every single phenomenon but no way to know which of them (if any of them actually ‘is’) is the true representative of truth. In this jungle of proliferated theories, the truth is lost and dishonored. The scientific activity now a day has become synonymous with the theory-building ability.
Theory-building is a kind of activity in which we get involved to provide an explanation for our current observation. Such an explanation is supposed to provide us a better understanding of the phenomenon. With such an understanding we may be in a position to predict and control the future event. The development in technology will move side by side with the progress on other fronts. These things are fine. But they may not satisfy our spirit of inquiry sufficiently to raise the further question that why should we accept any of the explanations? What may be the ground of accepting any such explanation? What may assure us that this and not that explanation is the right one? These questions along with other similar kind of questions are not new to the discipline of philosophy of science. Such questions have been raised over and again and have been investigated too. Karl Popper, for instance, reached the conclusion that though no theory on earth can be accepted to be true finally but it is at least sometimes possible to prove a theory false. Karl Popper thought that from any proposed theory we can deduce at least one contingent statement which is false. With the help of this false statement we can prove the proposed theory to be wrong. With the passage of time, it has been realized that things are easier said than done.

One problem with the Popper's falsifiability-criterion is that it presumes a certain precise connection between the world of mathematics and the world of nature which may not be acceptable to all. For instance, it seems doubtful that we can deduce a certain statement, from a group of highly analytical, rigorous, and mathematically-connected complex statements, which can said to be the representative of reality. Such a statement, even if deduced, would be based on a presumption about the mathematical nature of reality which may not be acceptable to all. Another problem is what may be called technically as the 'problem of degenerating problem-shift.' Even if we find a counter-example to our theory that can certainly challenge our present theoretical understanding of the phenomena, it may not be easily digestible to the current community of scientists. If we trace the history of science, it may not be difficult to locate many such instances where ad-hoc
modifications in the established theory have been introduced to accommodate any counter-example.

However, the point we wish to make here is that in these heydays of the proliferation of theories, the talk about truth is unheard. Though claims have been made to demonstrate the falsity of at least some of the theories but the actual realization of such claims is a rare phenomenon which hardly takes place in practice. The term for truth in the scientific discourse has now been replaced by such terms such as ‘truth-likeness’, or ‘approximation to the truth’, or ‘verisimilitude’.\textsuperscript{vi} Since the science has gone far away from its central objective of the attainment of truth, the division or demarcating border between science and non-science has become blurred. Therefore, some philosophers, like Richard Rorty, have gone all against to give science any extra privilege in the sphere of human knowledge. Richard Rorty in his famous work, ‘Objectivity, Relativism, and Truth’, has explicitly stated that the scientists must no longer think of themselves as a member of a quasi-priestly order and public also must not think of themselves in the care of such an order.\textsuperscript{vii} In this backdrop, science seems to deprive itself from its position of giving the truth regarding the world.

This is a very unfortunate situation of our time that the loss of truth from the world of science being tried to be compensated with the idea of advancement in technology. But can the technological advancement be a substitute of truth? The modern science, which has lost all hopes to attain the truth ever, is now taking refuge in the idea of technological efficacy which it can accrue. The devastating results of such an attitude may not be difficult to envisage. The technological advancement which is blind of truth gives rise to an unbalanced growth of certain human tendency that proves to be devastating for human-being in particular and earth in general. This is the present scenario in the form of ecological imbalances.
Analysis of the Situation:

Ordinarily, the above illustrated-situation is attributed to the greedy nature of human being to exploit the earthly resources quite irrationally. The truth-blinded man guided by his greedy and possessive nature and fully equipped with the weapon of technology is freely looting earth of its resources which in the long run would be harmful to man himself. This reason is certainly significant for the present situation and cannot be undermined. But a deeper analysis of the situation does suggest that the central reason for the present situation lies in the divorce between observational faculty and the rational faculty of human being. This mismatch between the capacity of reason and the capability of sense-experience has grown over the centuries and has led to the present situation where the over-abstract theoretical flight of the scientists out of pure imagination knows no boundaries and does not care to see any corresponding ground in our experience. This cleavage has occurred because our rational faculty developed over the centuries by leaps and bounds but nothing was done to make our observational faculty grow.

An obvious question turns out to be that how can we rectify this situation? Can the situation be improved with the help of technology? The advancement in technology can certainly help to assist our observational faculty. For instance, with the help of electron-microscope we can certainly observe things which cannot be observed with our naked eye. The electron-microscope, in this way, can multiply the capacity of our vision-faculty many times. Similarly, a significant increase in regard to the capability of other observational faculties can also take place. But can such enhancements replace the role of direct observation to the extant that the above-mentioned gap can be abridged? It seems doubtful that external artificial means of observation can replace the role of our underutilized instinctive abilities. The hope that further refinement of our methods of observation may eventually enable us to get to know the whole truth by abridging the above-mentioned gap seems to be deceptive.
By technological aids, the capacity of our observational faculties may be magnified hundreds of times but that cannot come in direct contact either with the postulated theoretical entities or abstract relations between such entities which are very often expressed in terms of mathematical relations or equations. Theoretical postulated entities are generally not observational in character. It is not because of lack of technology that theoretical entities are generally not seen or observed but it is the very abstract nature of such entities that they cannot be seen or observed in terms of sense-experience. Magnification of the observed phenomena cannot, therefore, help in bringing the theoretical postulated entities within the reach of sense-experience directly even if the most sophisticated technology comes to aid the sense-organ. At the early stage of development of science, some entities were postulated and they were believed to be theoretical in nature. Later on, with the help of technology they were brought within the reach of sense-observation and photographs of such entities were also taken. This is particularly true about the early development of atomic theory. But, Heisenberg has shown it very clearly, that we cannot observe a subatomic phenomenon beyond certain limit without disturbing the phenomenon itself.¹⁰ Any further development in science naturally goes in a direction where we will have theoretical postulation about the nature of theoretical entities and the relation between them and we will also be able to attain a definiteness about it in mathematical terms but we cannot ever observe either that entities or their relation in any ordinary sense of the term, observation. The gap between theory and observation, therefore, has reached that level where observation has become stagnant and theories are progressing without limit.

Remedy:

Since this situation has been created as a result of the malnourished or underdeveloped observational faculty of man, therefore, the only possible remedy is the empowerment of our means of direct observation by enabling
them to grow sufficiently or shift to a deeper observational faculty. Insight-based knowledge can rescue us from the present situation. The insight-based knowledge can be apprehended directly by means of our internal perception. In the Oriental intellectual disciplines, this faculty of internal perception is widely used to directly apprehend pure truths. This is especially true for Ayurveda and Yoga where this faculty is widely used to attain knowledge. For instance, Ayurveda applies this faculty in diagnosis, prognosis, and therapy. The claims of yoga that so and so mudrā or āsana would have such and such effect are based on directly apprehended truths only.

It may be appropriate here to demystify the notion of directly apprehended truths which is normally taken to be some other-worldly term having spiritual significance only. It may be argued here that the insight-based knowledge based on directly apprehended truths is not merely confined to the spiritual domain only. Apart from spirituality, it provides and explains valuable information regarding physical, neurological, psycho-neural, and psychological level of our existence and related matters.¹

It is important to understand the nature of our inner faculties of apprehending the reality directly. In the western tradition of philosophy, rational thinkers have used a term, intuition for direct apprehension. This intuition is something prior to discursive understanding of any situation. Although intuition is, ordinarily, used for the direct apprehension of our inner states and modifications of beings (psychic or supra-psychic), the division of internal and external is not so important so far as its functioning is concerned. It is important to note that through intuition we understand a difference between a drive and a desire and can make a quantitative sort of gradation among the various stages of desires. Furthermore, it is also because of an intuition that we understand the difference between two shapes in terms of big or small. Whether a figure is bigger in size than some other figure, can be proved by measurement. But we should not fail to understand that this difference is known to us intuitively and comes prior to any proof that can be given in support of such an intuition. If we don't
intuitively know the difference between big and small then we can never prove anything regarding that. The relative notions of big and small are based on intuition. Intuition functions not merely in the realm of our inner cognition. It is not difficult to show that it is inherently and necessarily present in every external-cognition also. It sounds trivial to say that all our knowledge has to be based on some sort of direct apprehension or intuition in our day to day life. But this trivial but very important truth is dropped in course of theoretical advancement of science. In any sphere, where we are working with a cognitive intention, certain truths are known fundamentally by direct apprehension. It is possible that they may not be recognized as directly apprehended truths in the beginning of our cognitive endeavor. Only after sufficient development of our cognitive enterprise, we can understand that they were presupposed in it though that presupposition was necessary, either implicitly or explicitly. In fact, it is not appropriate to call them presuppositions since we never actually supposed or assumed them intentionally. The so-called presuppositions are so obvious that if we ask at any stage of inquiry about them, then we can only answer that it is so and not otherwise. We don’t find that any question about “why that is so?” is a pertinent question or a relevant question because they are just given to us directly.

Intuitions are used in literature, in art, and in science too. In fact, it would not be wrong to say that all our intellectual activities have their roots at some intuitive truth. Since our cognitive endeavor alone is clearly directed to the goal of attainment of truth, therefore, sooner or later, we have to recognize the importance of intuition in cognition. The reason for the growth of the view that the scope of intuition is very limited or that it functions only in spiritual realm lies in a belief of common-sense (or naive) realism. Theory-postulation is done with the help of reason and observation is done with the help of sense-organ. Whatever is given to sense-organ is given to a public shareable field which we all are constrained to accept for various reasons. Our theoretical postulations are supported and proved by reason which also creates a public and objective domain. Intuition, functioning behind both of
them cannot have any support of either sense-experience or reason just because it is prior to them. This results into the false belief or make-belief that the role of intuition is very limited and it functions only in spiritual realm. Because of this ignorance, intuitive faculty of knowledge is developed only by persons who are engaged in spiritual quests. But when they developed this faculty they realized quite clearly that it is functioning not only in one or few specific aspects or realms of life but operating in all the conscious endeavors. This was the reason that mostly religious seekers understood the importance of intuition as a cognitive faculty and in India where Yoga and Ayurveda are developed⁵⁰; this realization was a lot to be used for cognition in every field.

With such an empowerment of our observational faculty we can re- alive our hope to attain the goal of pure truths by abridging the gap between the two important human faculties, that is reason and observation. At the same time, it is also a perfect illustration of how the intellectual wealth of our traditional wisdom can come to our rescue amid the difficult situations of our modern times.

Method of Diagnosis:

Caraka in his treatise Carakasamhitā mentions that there are only three methods of diagnosing a disease. These three methods are instructions of the inspired being (āptopadeśa), observation (pratyakṣa), and inference (anumāna) respectively. At some places in his treatise, he also gave recognition to yukti as the fourth source of knowledge. Suśruta considered the first three methods of diagnosis to be the valid method of enquiry. But he also introduced one more method of diagnosis in the list, i.e. the method of interrogation. It is very important to grasp the deep significance of the above mentioned methods of diagnosis esp. āptopadeśa to understand the real nature of Ayurveda as well the method of inquiry adopted in Ayurveda.
It is very interesting to notice that Indian medicine recognizes verbal testimony as an independent proof. In fact, āptopadeśa has been stated to be first source of knowledge. If we see the order in which the sources of knowledge are given, it goes like this: (1) āptopadeśa (2) perception (3) inference (4) yukti or the method of interrogation. Therefore, it seems that Ayurveda grants the āptopadeśa the highest place as far as the degree of authenticity of any pramāṇa is concerned. Also the domain of applicability of verbal testimony is quite wide and is not exhausted by the Veda-s alone. It also extends it to the testimony of a trustworthy person or āpta. Etymologically, the term āpti implies, “the immediate perception of meaning” (sākṣādarthasya āpti). In other words, āpti means the direct or immediate perception of truth. A trustworthy person, or an āptapurūsa, is one who can perceive the truth directly. He knows the truth directly and is able to communicate it correctly. He is an enlightened person who is free from all kinds of lust, anger, greed, passions, and ignorance. His mind is free from the impurities of rajas and tamas through the force of his ascetic endeavors and as a result, he possesses unlimited knowledge extending through past, present and future. Such persons are pure to the core of their nature and therefore, their understanding embracing the past, present, and the future is also pure and unclouded. They always speak truth. They are themselves the embodiment of truth on earth. Therefore, their word is unimpeachable and true. Caraka himself says, “Why will such men, devoid as they are of passion and ignorance, utter anything but the truth?”

The recognition of any source of knowledge by Ayurveda has been regarded to be highly authentic and authoritative in our whole tradition. For instance, Vācaspatimisra in his popular work remarked that the authority or reliability of a Vedic verse can be understood in terms of Ayurvedic methodology. A physician works hard to realize the result of his intuitions. He does not just believe the acquired truths. He conducts thousands of experiments and trials before coming to the final conclusion. He approves the medicine only when he realizes the results of his medicine in reality. Similarly, a sage utters a verse only when he realizes its truth. A Vedic seer
while uttering a verse is actually experiencing the truth of its content like an ayurvedic practitioner who approves a medicine only when the results of its efficacy have become a matter of his personal experience.

It is also important to look upon the first method of diagnosis from a slightly different aspect. Understanding of a disease essentially implies recognizing its exciting causes, origin, onset, precise location in the body, symptoms and signs acquired through sounds, touch, color, taste and odor, complications, stages of aggravation, sustenance, abatement, etc. Now one can impart these skills only through instructions of the authoritative people. Therefore, one can go and apply other methods of enquiry like making observations and drawing inferences without following the method of ṛtopadeśa. Therefore, it is critical to recognize the first method to be the foremost among all other techniques to make any real progress in the field of diagnosis.

After ṛtopadeśa comes the method of observation or pratyakṣa. In fact, in the three-step method of diagnosis in Ayurveda, observation comes at the second place. Here a physician is expected to closely examine the body of the patient with the help of his well-tuned sense organs. First of all, a physician should examine with his ears the intestinal sounds, the sounds of the joints and of the finger knuckles; variations in the patient’s voice or any other sounds that can be observed in any part of the body. Afterwards, with the help of the eye, he should examine the color, the shape, the luster of the body and anything else worth visual inspection. Similarly, the faculty to smell should be applied to gather any abnormal smell that can prove to be an invaluable tool in the hands of physician. Afterwards, the physician should touch the body of the patient by his own hands and should make an acquaintance with the rhythm of the body of the patient. Thereafter begins the role of the sense of taste. The physician should inspect the body of the patient by means of his sense of taste indirectly. During the examination, the physician should determine the taste in the patient’s mouth. The use of lice to ascertain the derangement of his body secretions is also suggested. In Carakasamhiti, it has been suggested that the excessive sweetness of the
body secretion can be judged by the accumulation of flies on the body of the patient. Another interesting test suggested by the physician Caraka is regarding the judging of vitiation or derangement of doṣa in the blood of the patient. Here a physician should give a sample of the patient’s blood to a dog or a crow. If they refuse to eat it then it implies that there is a derangement of doṣa-s.

The third step in the method of diagnosis is inference or anumāna. One can infer a disease from its hostile symptoms. For instance, the erection of hair of the patient suggests a specific kind of fever. In order to ascertain the real cause of a disease, the method of difference or the method of concomitant variation has been recommended. Similar substances are known to produce similar effects and opposite substances produces opposite effects. If we notice that the use of some specific substance under controlled conditions enhances a symptom and the application of its opposite brings it down, then it can be safely inferred that that specific substance is the cause of the symptom or disease. It is important to note down here that this is a three-step methodology of diagnosis in Ayurveda and all the three steps must be followed in that order in order to reach at a certain conclusion. It is also interesting to notice that as per Ayurveda there can not be any contradiction in getting results at various levels of this three step method.

Besides the above mentioned tools of diagnosis, Suśrutasaṁhitā lays special stress upon the personal questioning of the patient. What is the past history of the patient? In which part of the country he took birth? What is the present environment in which he is living? When did he contract the disease? What are the articles of food which he was consuming while he acquired the disease? What was the psychological set up of the patient at the time of onset of disease? What are his likes or dislikes and so on a host of other questions have been suggested in Suśrutasaṁhitā to ascertain the constitution of the patient, the nature of his disease, and subsequent therapy of the patient. The nature of this interrogation reaffirms our belief that for
Ayurveda, every disease has a psychosomatic aspect. The psychological dimension of a disease has been given due importance in Ayurveda not only at the level of diagnosis but also at the level of prognosis and therapy.

The ultimate cause of any disease in Ayurveda is the derangement or disorder at the level of dhātu, doṣa, and mala. Now doṣa-s, or dhātu-s or mala-s rarely gets agitated individually. Also it is possible that their derangement may be at different stages in different individuals acquiring the same disease. It is important to know the stage of the disease as the same medicine may not prove to be effective at a different stage of the disease. At the same time, the stage of derangement of dhātu-s, etc. has some connection with the stage of the disease normally. But as has been said above, the connection may not be as direct and explicit in different individuals. Therefore, the proper diagnosis in Ayurveda is an art where the physician has to properly recognize and assess all these factors.

Any writing on the diagnostic technique of Ayurveda would be incomplete without mentioning the nādi-vidyā or the examination of the pulse. But it is also worth mentioning that the application of the nādi-vidyā as a tool of diagnosis was recognized by ayurvedic theoreticians only in the twelfth century as we do not find any written record where the details regarding the pulse reading is mentioned. In earlier medical treatises like Carakasamhita, Susrutasarhhita, etc. we find no mentioning of the pulse reading as a method of diagnosis. But it is also possible that Ayurvedic practioners might have been using pulse reading as a diagnostic tool long before we find it in written record. Such an interpretation can be reinforced with the help of I-Tsing’s account of Indian medicine of his time. I-Tsing, a Chinese scholar visited India during A.D. 673-687. He knew medicine very well and was well versed in Chinese medicine. He also studied Indian medicine for quite some time at Nālandā. I-Tsing does not explicitly mention in his written record regarding the use of pulse reading by the Indian physicians. But at one place of his writing he specify that " in the healing arts of acupuncture, cautery and the skill of feeling the pulse, China has never been superseded by any country of Jambu dvīpa (India)." It is certainly
possible to interpret this statement to signify that I-Tsing actually came across some form of pulse reading by the Indians during his time period.

The first text on Ayurveda that mention the examination of pulse as a help to diagnosis was *Cikitsā kālikā* which was written by Tishtācārya in twelfth century A.D. Afterwards, Šārangadharma also described in great detail the different patterns of pulse beats in different diseases. The general belief of *nādi-vijñāna* was that a strong, steady, and harmonious pulse indicates health and contentment in man while any deviation suggests some malfunctioning or disease. The pulse on being very weak, feeble, and cold foretells death. The pulse that is very halting or intermittent has been designated as *prāganāśini* or the destroyer of life. In case of fever it gets excited and hence feels hot and fast. Similarly, if a person is vitiated by moral evils like passion, anger, greed, etc. then his or her pulse will turn fast and hot. If a person is under depression then it will become weak and cold. Similarly the pace, nature of movement, rhythm, and harmony of pulse has been correlated with various kinds of physical and mental conditions and ailments.

The important innovation of Indian physicians concerning pulse reading was the correlation they developed between the derangement or disharmony of *doṣa*-s and types of pulse pattern. *Bhāvamiśra* in his treatise *Bhāvaprakāśa* describes in details regarding the pulse reading and its association with the disharmony of *doṣa*-s. (*Bhāvamiśra*, a contemporary of the great mughal king Akbar, was the most famous ayurvedic practitioner of his time. He was described by his contemporaries as, "a jewel of a physician and a master of the text." He practiced and taught medicine in Kāshi. He summarized the theory and practice of medicine as enunciated by all the well known medical schools of thought current in his time in his work, *Bhāvaprakāśa*. Interestingly, this text did mention and describe for the very first *firanga roga* (literally meaning the Portuguese disease) or syphilis (in contemporary medical vocabulary). This disease was presumably brought to India by the Portuguese. *Bhāvamiśra* was the first author to discuss in detail
various stages of this disease and also its treatment.) He states, "The physicians feel the pulse or nādi at the root of the thumb of the right hand in males and the left hand in females. Its movements indicate the state of health or ill-health of the body. The examination is done by placing three fingers on this nādi. The first finger detects the movement of Vāta, the middle finger that of pitta and the third finger that of kapha. Vāta nādi jumps (utpluta), and the Kapha nādi moves slowly (mandagati). Similarly Sārangadhara also states, "if vāyu is excited, its movements resemble those of a leech, or a snake; if pitta is excited, its movements resemble those of a sparrow, crow or frog; if kapha is excited, the pulse shows the movement of a swan, or that of a pigeon."

Therefore, even though the pulse reading as a tool of diagnosis was not mentioned in our three oldest medical treatises and it seems to be borrowed from the outside world but it was suitably indigenized and adopted in accordance with the fundamental principles of Ayurveda. Many novel innovations made not only in regard to reading a pulse but also in relating it with the three fundamental principles of Ayurveda i.e. tridosa. The steps or the tools of diagnosis also got expanded with time. The three steps method of Caraka for diagnosis was expanded to the eight steps (astasthāna parikṣā) till the time of Bhāvamīśra and which are popular till this date in Ayurveda. These eight steps are: (1) insights of the inspired beings (āptopadeśa), (2) perception (pratyakṣa), (3) inference (anumāna), (4) pulse reading (nādi parikṣā), (5) examination of the eyes (netra), (6) examination of tongue (jihvā), (7) examination of the voice (śabda), and (8) examination of the urine (mūtra).

Despite the expansion that took place in the scope of method of diagnosis with the passage of time, it may be interesting to note down here that the position of āptopadeśa has remained intact. Even in later times, the insights of the visionary has been given due respect and always has been mentioned as the first and the most fundamental step of the procedure of diagnosis. At the same time, it has been held equally true that the acquired truth of the inspired beings would be substantiated by the later steps in our
multi-step procedure of diagnosis. It has not been the case that there would be a contradiction between these two. If at all there appears to be a contradiction, the acquired truths of the masters has been assigned the prime importance and it is suggested that there must be some flaw in following the exact procedure in regard to the rest of the steps of the diagnostic method.

Another important aspect of diagnosis in Ayurveda that is worth mentioning here is regarding the five stages of disease. A disease before its full-blown eruption passes through five distinctive stages. Each stage represents a loss of balance, but its appearance changes as the process continues. Interestingly, the first three stages do not represent any textbook disorder. These three are invisible and can be tied in to either the body or the mind. The last two carry overt symptoms that can be detected both by the patient as well as by any doctor. These five stages are chaya, prakopa, prasāra, pūrva-rūpa and rūpa respectively. The first stage is the stage of accumulation whereby the process of disease begins with the build-up of one or more dosa-s. At the second stage of the disease-process, the excess dosa accumulates to the point that it starts to spread outside its normal boundaries. At the third stage, the dosa moves throughout the body. There can be no criterion to qualify these first three stages and hence they are not open to our visual experience. At the fourth stage, the wandering dosa settles somewhere it does not belong. The next and the last stage before the full-blown eruption of the disease is rūpa or manifestation. At this stage the physical symptoms starts appearing in the body. The physical symptoms appear at the point where the specific dosa has localized.

A simple illustration can make it much easier here to grasp the above mentioned five stages of the disease process. Let us say that the accumulation of dosa takes place in a person of vāta type may be due to improper rest, or avoiding food, or over stimulation because of listening loud music, or watching violent movies, etc. Now once there is an accumulation of excess dosa, it will immediately start leaving the places where it is supposed
to remain. It will start moving around the body. Soon it will find a place where toxic residue is present in the body and it will get stuck to that portion of the body. (It is necessary to mention here a general belief of Ayurveda so that the above mentioned point can be well taken. Ayurveda believes that the human body is continuously exposed to dietary, behavioral, and emotional imbalances. As a result, it collects toxic residue over the years. This toxic residue by its very nature will finally become the seat of a wandering doṣa.)

Up to now, the first three stages of the disease have been concluded. At this point, a western doctor would not be able to diagnose the disease because no text book disorder is present. But from the Ayurvedic standpoint, it is certain that the body is no longer healthy. Moreover, an Ayurvedic physician will not find much difficulty in sensing this initial onset of a doṣa imbalance as he is trained in such kind of activities. Even the patient himself can sense this initial onset of a doṣa derangement if he is very much aware of his or her body. It is a common experience that very subtle changes starts appearing in the body like a vague type of discomfort that can not be localized or identified. Through these preliminary indications, the body usually gives a warning to the victim in advance. But it would simply baffle a doctor trained in western medicine. He will just end up in constructing a fuzzy constellation of aches, pains, muscle weakness, low grade fever, or simply lingering fatigue. Afterwards, at the level of fourth stage of disease the distinct symptoms of disease start appearing. At this stage, the imbalance doṣa will settle down somewhere. Now if excess doṣa has lodged in a joint then one might feel inflammation in joints or a twinge of arthritis. If the excess doṣa has settled in the stomach, one might feel heartburn or upset stomach and so on. It may be noted here that any doṣa can lodge anywhere. Finally, at the fifth stage of the disease the more clear symptoms of the disease starts manifesting themselves.

It can be fairly said that Ayurveda attempts to tackle the disease at much subtle level whereby the things has not yet entered in the domain of our visual world of experience. The first three steps of the five-stage disease
process of Ayurveda are clearly not part of our ordinary visual experience. Clearly, something more has been suggested here. This something more cannot be captured with the help of our unaided or even aided sense-organs. Therefore, the claim made in the beginning of this chapter regarding the insight-based method of Ayurveda can be substantiated on this ground that there are diagnostic processes in Ayurveda that can be observed only at the level of our higher intuitive faculties. At the same time, it is also true that the Ayurveda does not repudiate the validity of our sense-experience. It respects its validity but points out that it may not capture the entire truth. There are things beyond our visual experience and human being is capable of intuiting them. The vision of Ayurveda is all-inclusive and all-encompassing. In the next chapter a lot more will be said regarding the holistic world-view as purported in Ayurveda.
REFERENCES:

1 In Theaetetus, Socrates first clears up the confusion between knowledge and various kinds or applications of knowledge to the mathematician, Theodorus, and the youth Theaetetus. Later, the discussion centers upon three prevalent definitions of knowledge: (1) Knowledge is sensible perception; (2) knowledge is true opinion; (3) knowledge is true opinion with reasoned explanation. Socrates rejects all of them. “Socrates: there is, then, my friend, a combination of right opinion with rational explanation, which cannot as yet properly be called knowledge?” (p. 247).

“Socrates: .... So neither perception, Theaetetus, nor true opinion, nor reason or explanation combined with true opinion could be knowledge.” (p. 255) - Plato, with an English translation by Harold North Fowler; Harvard University Press, London. Reprint, 1952.

“Reason is a harmonizing, controlling force rather than a creative one.” P. 13, Mysticism and Logic and other Essays by Bertrand Russell, George Allen and Unwin Ltd. 10th ed., 1951.

“....this technical success which was due to the mathematization of the world was made possible precisely by suppressing the life world.....” further, ” sciences of Galilean style are sciences of concealment.”; further, ”..... Galilean sciences build their abstract and idealized constructions on the basis of the life world; however, so great has been the success of this mathematization that the constructed world of pure matter in motion is taken to be the real, objective world and the life world of experience relegated to subjective appearance.”- Edmund Husserl: The Crisis of European Sciences & Transcendental Phenomenology, Trans. By David Carr, North Western University Press, Illinois.

“... The assumption of the truth of test statements sometimes allows us to justify the claim that an explanatory universal theory is false.”- P 7, ch. 1, Karl R. Popper: Objective Knowledge- an evolutionary approach, Oxford University Press, London, 1972.

“... a general tendency, notable during the last half-century but regretted by many, for the fundamentals of physics to become an abstract mathematical theory unsupported by underlying concrete ideas.”; further, ” it seems as if theoretical physics were coming to be based upon certain mathematical assumptions rather than upon concrete pictures of reality.”- F. K. Richtmyer & E. H. Kennard: Introduction to modern physics, p. 50, 330. McGraw-Hill Book Co. Inc., New York & London, 1947.

“... The essential characterization of mathematics is the study of pattern in abstraction from the particulars which are patterned.” Further, “... of confining thought to purely formal relations which then masquerade as reality.... Science relapses into the study of differential equations. The concrete world has slipped through the meshes of the scientific net.”; “...there can be no true physical science which looks first to mathematics for the provision of a conceptual model. Such a procedure is to repeat the errors of the logicians of the middle ages.” – p. 83, 85, 246. A. N. Whitehead, Essays in Science & Philosophy, Rider & Co., 1948.
"... and it allows us to say that the aim of science is truth in the sense of better approximation to truth, or greater verisimilitude." – p.57, ch. 2, Karl R. Popper: Objective Knowledge – An Evolutionary Approach, Oxford University Press, London, 1972.

Further, "we can introduce the idea of the truth-likeness or verisimilitude of a statement in such a way that it increases with its truth content and decreases with its falsity content." – p.334, ch. 9, ibid.

"... If all this happened, the term “science”, and thus the oppositions between the humanities, the arts, and the sciences, might gradually fade away. Once “science” was deprived of an honorific sense, we might not need it for taxonomy. We might feel no more need for a term which groups together paleontology, physics, anthropology, and psychology than we do for one which groups together engineering, law, social work, and medicine. The people now called “scientists” would no longer think of themselves as a member of a quasi-priestly order, nor would the public think of them as in the care of such an order." – p.44, Richard Rorty: Objectivity, Relativism, and Truth, Philosophical Papers Volume 1, Cambridge University Press, Cambridge, reprinted, 1991.

"... Measured by an atomic scale it is insufficient, and a law characteristic for this miniature world prevents us from determining position and velocity with the desired accuracy. Experiments can be done enabling us to determine, say, the position of a particle with great accuracy, but in the course of this measurement the particle has to be exposed to strong external influences which are responsible for a considerable uncertainty as to its velocity. Nature thus escapes accurate determination, in terms of our commonsense ideas, by an unavoidable disturbance which is part of every observation. It was originally the aim of all science to describe nature as far as possible as it is, i.e., without our interference. We now realize that this is an unattainable goal. In atomic physics it is impossible to neglect the changes produced on the observed object by observation." – p. 73, ch. 5, Werner Heisenberg: Philosophic Problems of Nuclear Science, Trans. by F.C.Hayes, 1st edition, Faber & Faber Ltd., 24 Russell Square, London.

"By making samyama (or concentration) on the navel circle, (comes) the knowledge of the constitution of the body." ( nabhicakre kāyavyūhajñanam ) – p.251, verse 30, Swami Vivekananda: Raja Yoga, Advaita Ashrama, Calcutta, 11th edition, 1959.

Further, "by making samyama on the effulgent light, comes the knowledge of the fine, the obstructed, and the remote." P. 250, verse 26, ibid.

Further, "from that arises the knowledge belonging to Pratibha and (supernatural) hearing, touching, seeing, tasting, and smelling." - p.254, verse 37, ibid.

Śāstram jyotiḥ prakaśārtham darśanambuddhiratmanaḥ I
Tābhyām bhīṣaksuyuktābhāyām cikitsānāparādhyati II

(A medical practitioner, who is enlightened by the illumination of testimony and has developed a vision to look into intellect and soul, can never commit an error.) –Sutrasthānam, Suśrutasamhitā, translated by Dr. Bhaskar Govind Ghanekar, Meharchandra Lakshamandas, Daryaganj, Delhi, samvat 2006 V.
“antrayurvedapramāṇyavāccca tatpramāṇyamāptapramāṇaḥayā”.

Vacaspattimisra, Nyāyavārtikātātparyātikā (vol. 3), Ed. By Sh. Anantil Thakur, Published by ICPR, N. Delhi, 1996, P. 383.