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The Philosophy of Ayurveda or Hindu Medicine to the Modern Contex

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Abstract

It deals with the fascinating history of the researches which were conducted in India and abroad. Many researches which have been claimed in modern medicine, such as the knowledge of Dropsy caused by the malfunctioning of the heart, the knowledge of circulation of blood, the art & science of surgery and midwifery, the training of human anatomy from the corpses, the art of diagnosing ailments & diseases, the eye operation for cataract; the plastic surgery, the art of removal & curing of bladder stones, the technique of inoculation for smallpox, and the knowledge and treatment of diseases like Cholera. The Story and discovery of Auromycin an antibiotic from the soil and the use of mud from the Nile and soil used in medicine, whereas in India the use of old age Dahi (curd), honey and rice grains in Ayurveda was quite often used by the physician. what was behind this as the use of mud from the Nile in Egypt? The present article is based on such unknown facts seldom brought to light.

Keywords: Auromycin; *bhisak*; cataract; cholera; dahi (curd); dropsy; honey; inoculation; rice grains; smallpox

Introduction

We already know the history of civilisation in India, along with the development of the Ayurvedic System of medicine, beginning from the Indus civilisation. Here we are discussing many research studies which were already conducted in India, such as the knowledge of inoculation in cowpox, surgery, knowledge of cholera, dropsy, etc. The present article is based on such unknown facts seldom brought to light.

The Bhisak of the Rigveda: In the Rigveda we often met with the word *'Bhisaka'*. In Sanskrit, the word means a physician but actually it means a "root gatherer", who knew the herbs and gathered them from the far remote forests and brought them to the physicians and supplied them.

Figure 1: A root gatherer or Bhisak.

Sharma (1969) has described Bhisak of two types: Deva Bhisak, which included Brahma, Rudra, Varuna, Indra, Vrihaspati, Asvin Kumar and Saraswati, which have been described and tabulated by Shah (2016). "*Bhisaka*" has been well referred to in the Rig veda a few times but in the Yajur Veda several times (Sharma 1969 p. 23). These root- gatherers also knew the treatment and treated the patients on and often. Jurgan Thorwald (1962, p.197) had a different view about the "*Bhisaka'*; he writes, " in the Rigveda, there are those sages who accompanied the wandering Aryan tribes with a bag full of healing herbs; they cared for the wounded, drew arrows and spears from their bodies and knew how to remove injured eyes. They also created 'artificial eyes', healed the stumps of amputated limbs using the soma plant to alleviate pain, and, incredible though it seems, made 'artificial limbs' prostheses. All this implies a high development of medical art . Its precise origins are unknown but it must have evolved from the needs of an itinerant and fighting people. The sages of the Rigveda knew the importance of cauterising wounds and snake bites 'with the torch'. They used an instrument of un-described nature in cases of bladder trouble and retention of urine to open the flow of urine again like a dam before a lak"e.

When the Aryans arrived in India, they were scriptless: The Aryan warriors had no script when they invaded India and began settling here. At that time they had no script at all in which they could write their thoughts; only they orally recited their Rigvedic verses, in which the priests had incorporated religious ideas and hymns to the gods. Their songs also recorded their history. They were perhaps first set down in writing early in the 1000 yrs B.C. in a new script brought from Western Asia by the Hindu merchants – the script is reminiscent of Phoenician. First they transcribed Rigveda verses which they had brought from Mid-Asia and the language is called Sanskrit, and later, while reaching India, they contributed in writing the *Samaveda*, *Yajurveda* and *Atharvaveda* in the Sindhu region and other parts of the country.

They used a single plant for treatment, as mentioned in the Atharva Veda: If we closely examine the uses of medicinal plants as mentioned in *the Atharva veda* we find only the use of a single plant, which has been elaborately given by Sharma,(1969). It is certain that during that period they used a single specific drug plant for specific ailments and diseases. There is no mention in the Atharva veda on the use of more than one plant. Possibly, the combination of herbal drugs and minerals and the doctrine of Panchbhuta emerged from the researches conducted at Taxsila University and by the then learnt physicians like Kumar Bhratya, Atreya, Agnivesa, Jatukarna, Bhela, Harita, Ksarpani, Parsara and Charaka, and Jivaka, and in the west by Dhanwantri, Susruta, etc. It was propounded that the diseases and ailments in the human body are the imbalance of *Vayu*, *Pitta* and *Kapha* and are the sign of an unhealthy man. This is a very complicated criteria, which unfortunately has been much misunderstood by western scholars judging by the wrong, irresponsible translation rendering these terms as "Wind, Bile and Phlegm." Similarly, the beneficial quality of any medicinal herb is judged by

its 5 properties, such as Ras, Guna, Virya, Vipak and Prabhava, commonly referred to as the doctrine of the Panchabhuta theory. There is also no equivalent terminology in modern science and so could not be translated in modern terms, like *'Kapha*, *Vayu* and *Pitta*. On this issue, Pendse & Ayengar(1961) have given their useful comments.

When one fully examines and knows the properties of a plant, then its action is examined on the different internal and external body parts under 9 types of Karma such as; *Dosa karma*, *Sansthanic karma*, *Abhyantar Pachan sansthan*, *Raktavahak sansthan*, *Swasan sansthan*, *Mutravahak sansthan*, *Twacha (Skin), Tapkrama,(Temperature); Satmikaran*. Actually, it is the Ayurvedic pharmacology. This doctrine was earlier used to select out herbal plants to be used for their action on the above-stated 9 types of karma and to find their effect on *'treedosh'* (*Kapha*, *Vayu* & *Pitta*). One thing is very interesting: no new plant in Ayurveda has been added since the addition of *Digitalis purpurea* to Ayurveda by Acharya Tikram ji Vaidya, who gave the Ayurvedic name to the plant as *'Til pushpi'*. This is a very important issue to be considered.

The Hindu physicians well knew that dropsy is caused by malfunctioning of the heart: In 1775 Dr William Withering, an English physician, discovered the efficacy of foxglove (Digitalis purpurea) in the treatment of severe congestive heart failure He was first in the medical field to scientifically investigate a folk remedy . He attributed its efficacy to a diuretic effect and published his findings based on his clinical observations in 1785 in "Account of the Foxglove and some of its medicinal uses with practical remarks on Dropsy and other diseases", by Esters & White 1865.

Figure 2: Dr. William Withering (1741-1799), an English physician, who in 1775 discovered the efficacy of Fox glove (Digitalis purpurea) in heart troubles.

Dr Withering meticulously studied the plant from 1775 to 1785 as a treatment for dropsy (congestive heart failure) and later wards standardised the doses, and it was the first mile stone or beginning of modern therapeutic science. Now, the glycosides from the Digitalis species are seldom used in modern medicine. However, Shah (2007) has given a vivid account of the cultivation of this historical drug plant in Kashmir & Kumaon.

However, Jurgan Thorwald (1962) stated that in Indian medicine or Ayurveda, Dropsy was described in these words: 'water in belly.' (Jal o *udar*) and medical historians discovered with some surprise that Vedic priests or doctors had been aware of the connection between dropsy and cardiac complaints. For swellings of the joints were spoken of in conjunction with pains in the chest. Sanyal (nd) also described that in Ayurveda, cardiac dropsy is associated with swelling of the heel's front part of the foot.

Figure 3: The leaves of Digitalis purpurea the foxglove the leaves of which were used to cure different ailments of heart diseases.(Photo: N.C.Shah).

According to Lee M.R (2005) there had no clear idea or clear connection between the heart, dropsy and fluid retention. As a result of these, there was an uncertainty about the proper doses of the foxglove leaf. Some time, too-large doses or an ineffective dose were administered and no improvement was observed due to inaccurate doses. These problems could not be resolved for a further 100 years until histopathology and electrocardiography became established. Nevertheless, the *Treatise on the foxglove* was a notable advance based entirely on careful clinical observation and it changed the face of medical practice forever.

The knowledge of circulation of blood and other skills was well known to the Hindu physicians: We have already seen the knowledge and skill the Aryan or Hindu people had had through the writings of Mahamahanadhyaya Gananath Sen, Vidyanidhi, Saraswati, and the Presidential Address on 7th February, 1916, at Benaras University, Shah (2017). In which he discussed in brief the Past Successes the dissection of corpses for learning and Circulation of blood. Circulation of blood was understood with fair clearness long before the much-talked-of discovery by Sir William Harvey in the seventeenth century;

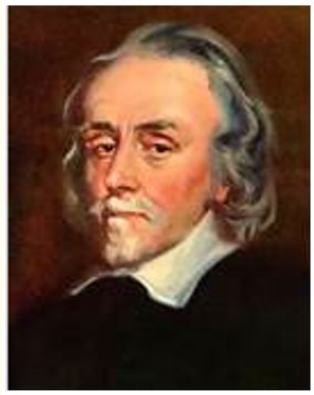

Figure 4: William Harvey (1 April 1578 – 3 June 1657)He was an English physician who first told the world about the circulation of blood and made seminal contributions in anatomy and physiology. However, it was well known to the Hindu physicians before his discovery.

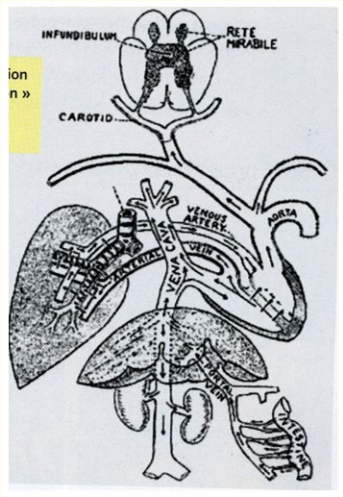

Figure 5: William Harvey's diagram showing the circulation of blood.

The art of surgery and midwifery was well known in Ayurveda; In Midwifery, the different mal-positions of the foetus at birth were well understood by the ancients and the different methods of treatment by version or turning the foetus in Uterus, Embriotomy and caesarean section described in ancient works stand as monuments of past glory. All this implies a high development of medical art. Its precise origins are unknown but it must have evolved from the needs of an itinerant and fighting people. The 'sages' of the Rigveda knew the importance of cauterising wounds and snake bites 'with the torch'. They used it as an instrument of the underscribed nature in cases of bladder trouble and retention of urine to 'open the flow of urine again like a dam before a lake'.

Apparently these healers had adjusted to the rough manners of their tribes and were as self-assertive and avaricious as any ordinary tribesmen. 'The carpenter craves wood, the priest offerings, and the physician sicknesses,' we read. Another passage speaks of a doctor who demanded many cattle for his fee.

Since we have no information concerning the state of medical knowledge the Aryan conquerors found when they reached the Indus, we cannot tell what they inherited from their predecessors when they themselves abandoned nomadism for the settled life. Until this matter is clarified, the Aryans must for the present be regarded as the fathers of that amazing development in surgery which later took place in India.

During the first half of the first millennium B.C., the city of Taxila in the extreme northwest of India reached its peak of glory and much is said only thing to be mentioned here is that for a long time Western historians were familiar with Taxila only from the accounts of the Greek geographer Strabo (64 B.C. to A.D.) and the Greek writer Arrian (ca. A.D. 30). It is certain the actual science of Ayurveda started from this university.

Learning of the human anatomy was known from the training of dissection of corpses: The students were trained about the anatomy of the body parts as it is done nowadays in the medical institutions. But the method was different for preparing corpses, Jurgan Thorwald, (1962), states, "a perfectly preserved body must be used. it should be the body of a person who is not very old and did not die of poison or severe disease. After the intestines have been cleaned, the body. must be wrapped in beast [the inner bark of trees], grass, or hemp and placed in a cage [for protection against animals]. The cage should be placed in a carefully concealed spot in a river with a fairly gentle current, and the body left to soften. After seven days the body is removed from the water and with a brush of roots, hair, and bamboo, it should be brushed off a layer at a time. When this is done, the eye can observe every large or small, outer or inner

part of the body, beginning with the skin, as each part is laid bare by the brushing."

The art of diagnosing ailments & diseases: According to Charaka Samhita, at least fourteen different abdominal tumours, twelve types of worm infections, eight varieties of jaundice, twenty kinds of earache, sixty/five mouth infections, and thirty/one different maladies of the nose. All this seems to point to a veritable passion for close observation. The physicians must have used all the means at their disposal to achieve such a wide range of diagnoses on which to rest their fame.

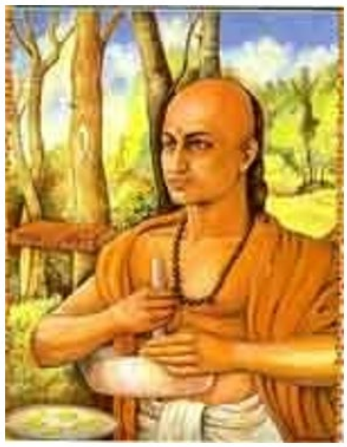

Figure 6: Physician Caraka was able to diagnose a number of present day body ailments and diseases that showed a veritable passion for close observation.

Among the instructions were such: 'Feel the pulse.' The Indian physicians spoke of a 'weak pulse ' or a 'creeping pulse. The sentence, 'With the ear the noises of the wind in the channels can be heard,' suggests that they practiced anseultation. They observed the tongne the skin, and the excretion and catalogued innumerable symptoms.

The Charaka Samhita contained a description of the symptoms of diabetes. It spoke of a feeling of sweetness in the mouth, burning sensations in the hands and feet, and of urine so sweet that it attracted the ants. And it stated (rightly, for the era) that this disease was incurable (Jurgan Thorwald,1962).

The operation of the eye for cataracts: Historians who had studied the cataract operation practised in Babylonia had wondered whether the technique might not, like so many drugs, have come from India. And in fact, among the many amazing passages to be found in the *Susruta Samhita* was the first detailed description of couching for cataract in the history of medicine. According to Jurgan Thorwald (1962, p. 207), it states, "In the morning, in a bright place, the temperature being moderate, let the physician sit on a bench as high as his knee, opposite the patient. The latter, having washed and eaten and been tied, sits on the ground."

"After he has warmed the patient's eye with the breath of his mouth, rubbed it with his thumb, and detected the uncleanness which has formed in the pupil, he orders the patient to look down at his nose. Then, while the patient's head is held firmly, he takes the lancet between his forefinger, middle finger, and thumb and introduces it into the eye, toward the pupil, on the side, half a finger's breadth from the black of the eye and a quarter of a quarter of a finger's breadth from the outer corner of the eye. He moves it back and forth and upward. Let him operate on the left eye with the right hand or on the right with the left. If he has probed correctly, there is a sound, and a drop of water comes out painlessly.

Figure 7: A cataract is a medical condition in which, the lens of the eye becomes progressively opaque, resulting in blurred vision. Cataract in the eye was successfully removed by the Ayurvedic physicians about 2500 year ago.

Jurgan Thorwald (1962) further states that this method reached Mesopotamia by way of doctors who might occasionally have accompanied Indian trading vessels or caravans. how far back must we go to reach the origins of this art? For how many centuries was it transmitted by oral tradition before it was finally written down in the *Susruta Samhita*? In my opinion, all these experiments were instituted and conducted in Taxila University and later this technique was learnt by Sushruta, who inscribed it. References to the cataract operation in the Code of Hammurabi date from the first half of the second millennium B.C.

Couching for cataract was only one item among the pioneering achievements in surgery recorded in the *Susruta Samhita*. In two other cases there can be scarcely any doubt that the basic method travelled from East to West, a gift of Indian to Mediterranean and Occidental medicine.

The art of plastic surgery:' Among the favourite punishments of the Vedic age and in the era of the early Indian kingdoms was the cutting off of noses and ears. Possibly this practice gave stimulus to efforts to replace the lost features by medical art. Restoration of mutilated face parts like nose by plastic surgery' might well have been a chapter heading in the *Susruta Samhita*. The subject has been dealt with in detail, Saraf & Parihar. (2006), Nelson, Richard L.2008. and .Shah, (2015).

In 1884 a newspaper account from India prompted a pioneer of modern plastic surgery, Joseph Constantine Carpue, to attempt Europe's first restoration of a lost nose. Branca and Tagliacozzi had been long forgotten, but Carpue was greatly interested to read of a method for restoring the nose practiced Successfully by itinerant surgeons in the villages of colonial India exactly as described in the *Susruta Samhita* thousands of years before. Among other things, the nineteenth-century newspaper story is testimony to the vast spans of time over which medical practices could survive in India. That is a good reason for assuming that the oldest tangible evidence of Indian cinema was based upon still older traditions. Jurgan Thorwald, (1962, p. 209).

Removal & curing of Bladder Stone: According to Jurgan Thorwald (1962, pp. 210-211), the bladder stone, one of the most painful afflictions of humanity and for ages regarded as fatal, was the subject of another chapter in the *Susruta Samhita*. Without a doubt, cystic calculus, to give it the scientific name, was especially common in early India – as in all tropical countries – owing to high evaporation of body fluids and the concentration of urine. While smaller stones could pass through the organs, although with frightful pain, large concretions remained in the bladder, increased in size by crystallisation, and blocked the passage of urine until the patient, after prolonged tortures, died of uremia or rupture of the bladder.

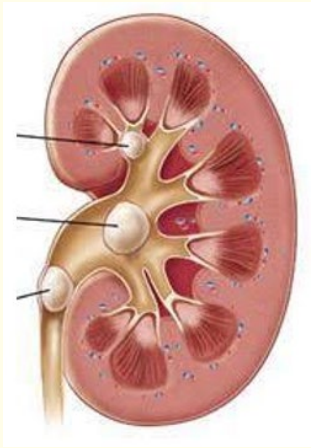

Figure 8: The position of the Stones inside kidney and in the Ureter. These are said to be vey painful. In Ayurveda Dolicho biflorus Seeds extract are given to erase these stones of the bladder These are said to be erased by the dishes of Gahut prepared in Kumaon this lentil is used with various tasteful dishes. (Wikipedia).

The Medical historians speak of Giovanni de Romanis and Mario Santos, of the late fifteenth and early sixteenth centuries, as founders of the modern art of lithotomy. But where had these men learnt the method? where had the method been invented?

Now that the texts of the *Susruta Samhita*, of at least two thousand years before the time of these Italians, were available, it was found that they contained an exact description of bladder surgery. The surgeon was to rub the second and third fingers of his left hand thoroughly with fat and make sure that his nails were clipped close. Then he introduced these fingers into the patient's anus. He must thrust them vigorously, high enough until he could feel the stone in the bladder, for it would probably be pushed backward and down by the pressure on the abdominal wall. Then he had to press the stone down against the rectum and, with the knife wielded by his right hand, cut through the perineum toward the stone. A forceps was then introduced through the incision, and the stone was grasped and drawn out.

Bold and incredible as this operation sounds, the findings of medical history have left no doubt that it was performed in the manner described and that it could have been performed successfully. From the days of Atreya and his predecessors, a direct line leads through Greece and Rome to the lithotomists of the Middle Ages and on still farther to the surgeons of the nineteenth century, who, until the development of bloodless fragmentation of the stone in the bladder and the discovery of antisepsis, took the same measures to save sufferers from bladder stone. They too could point to quite a few cases in which their operation succeeded, although they did not even stitch up the wound but waited for natural healing.

The edges of the wound had to be drawn together. Then black ants were placed side by side until their mandibles had closed like clamps around the edges of the wound. 'When', the text continues, 'the edges of the wound have been bitten by the ants, the bodies behind in the intestines. The intestines are replaced [in the abdominal cavity] and the incision [in the abdominal wall] is sewn up with a needle.'

The technique of inoculation for immunisation for smallpox was well known to Hindus before Dr Edward Jenner: Though, the credit for smallpox vaccination goes to Edward Jenner, who carried out his famous experiment on eight-year-old James Phipps, according to BBC. In6, Jenner took pus from a cowpox pustule and inserted it into an incision on the boy's arm. He was testing his theory,

drawn from the folklore of the countryside, that milkmaids, who suffered the mild disease of cowpox, never had had smallpox. Smallpox was regarded as one of the greatest killers of the past, particularly among children. Jenner subsequently proved that having been inoculated with cowpox, Phipps was immune to smallpox. He submitted a paper to the Royal Society in 1797 describing his experiment but was told that his ideas were too revolutionary and that he needed more proof. Undaunted, Jenner experimented on several other children, including his own 11-month-old son. In 1798, the results were finally published and Jenner coined the word vaccine from the Latin 'vacca' for cow.

Figure 9: Edward Jenner (1749–1823). was an English doctor, the pioneer of smallpox vaccination and the father of immunology. Photo: BBC.

Figure 10: Jenner for the first time vaccinating a boy to make his body immune to small pox infection.

According to Mukhopadhyaya (1923, pp. 113 and 116) The epidemic outbreak of smallpox is described in the Atharvaveda and the worship in the temple where Brahmans used to offer prayer at the inoculation with smallpox, which has been practised from the remotest past. He quotes Chapman, who states that " at a very remote period, in Hindustan, a tribe of Brahmans, resorted to it as a religious ceremony. A small incision was made and cotton soaked in the virus was applied to the wound. offerings were devoted to the goddess of spots to invoke her and this divinity having hinted at inoculation, the thought being much above the reach of human wisdom and foresight."

He further states, " A paper was read in 1767 before the royal college of Physicians in London by Mr J.M. Holwell. The inoculators passed from home to home and operated at the doors, asking how many pocks the parents wished and preferred to operate for males between the wrist and elbow and females between the elbow and the shoulder. Fifteen or sixteen scarifications were made with an iron or steel instrument with various matters from the inoculated pustules of the previous year. The wound was also moistened with Ganges (Ganga) water and the part was in the first place rubbed for about seven to eight minutes. All the time the goddess was being invoked. cold water was poured over the patients up to the time the fever appeared and again after the eruption came out until the scabs of the pustules dropped off, and a restricted diet was ordered for a month. The pustules were opened with a sharp knife. The operation rarely failed.

Figure 11: Small pox were first discovered in the teets of cows, where these are known as cowpox.

Further, Mukhpadhyay,(1923, 123), it is mentioned that in Sancheta Grantham, a medicinal work attributed to Dhanwantri, performing the inoculation with fluid taken from a pock on the udder of the cow or from the arm of a human subject, etc. The next more particularly describes the smallpox produced by the fluid from the udder of the cow and appears, in short, to be an imperfect abstract opinion and description of Dr Jenner. Take the serum matter from the pustules on the teats of cows or from an arm of men should be taken by means of a knife and introduced into the arms of a child; the pus, as it mixes with the blood, causes the fevers of smallpox.

Figure 12: In 1970, a child suffering with Smallpox in India. Now the disease is completely eradicated from the face of the earth. Photo: World Health Organization.

The knowledge and treatment of diseases like Cholera: Mukhopadhyaya, G. (1923) has discussed the Hindu medicine or Ayurveda, in 3 volumes of his book History of medicine. He has described cholera under the name of *visuchika*, which means *suchi*, as needle or pain, implying that cholera is a peculiarly painful sensation all through the body, like the piercing of needles.

It is clear that cholera was well known to earlier physicians. No doubt in India, many diseases like cholera and smallpox (said to be brought by the Egyptian merchants, Jurgan Thorwald,(,1962) and also leprosy, tuberculosis, etc.?

At present day, cholera is known to be caused by the cholera bacterium (*Vibrio cholerae*) Nausea and vomiting. occurring especially in the early stages of cholera, vomiting may persist for hours at a time. Dehydration can develop within hours after the onset of cholera symptoms. Depending on how much body fluid has been lost, dehydration can range from mild to severe. A loss of 10 cent or more of total body weight indicates severe dehydration. Signs and symptoms of cholera dehydration include irritability, lethargy, sunken eyes, a dry mouth, extreme thirst, dry and shrivelled skin that's slow to bounce back when pinched into a fold, little or no urine output, low blood pressure, and an irregular heartbeat (arrhythmia). If untreated, severe hypovolemic shock can cause death in a matter of minutes. Due to loss of body salts, the muscle cramps do occur.

The Story and discovery of Auromycin, an antibiotic from the soil: According to Jürgen Thorwald (1963,p.85),the Egyptian used in medicine the 'Mud of the Nile', "Mud of the marsh' and soil, including a particular soil named *btj*, which was also used in prescriptions by the Egyptian physicians. Not only this, the Egyptian eye doctors mixed excrement in dried and powdered form with eye ointment or honey, including particular soil; eye doctors mixed excrement in dried and powdered form with eye ointment or honey . They seemed to have a special penchant for fermenting honey. They resorted to these mixtures chiefly in cases of the severe types of trachoma and similar infections of the eye, which defied other treatments. Urine was used for eye wash. Mud and soil were also employed in compresses.

In India too, human urine is used on bleeding body cuts as first aid in remote villages, and there is information on the use of certain mud soils in certain skin diseases.

When, Benjamin Duggar, Prof. of Plant Physiology at the University of Wisconsin, presented the world in 1948 with the new drug auromycin, he certainly had no thought of the effect of his discovery upon our evaluation of Egyptian medicine. It turned out that auromycin was highly effective in the treatment of trachoma.

And, at that time, aureomycin was the newest among the antibiotic 'wonder drugs'. It was extracted from a type of soil found particularly in the vicinity of the cemeteries, and it was just on among some 30,000 soil specimens Duggar and his colleagues had examined and screened between 1944 and 1946. This soil produced fungi which had as annihilating an effect upon some disease bacteria as did the moulds from which penicillin was derived. Certain waste products that result from the metabolism of these moulds have an inhibiting effect on the growth of bacteria living in the human body that release their secretory products into the faeces and urine, which therefore are rich in antibiotic substances.

The avermectins derived from auromycin are a series of drugs used to treat parasitic worms. The other anthelmintics derived from the avermectins include ivermectin, selamectin, doramectin, and abamectin. In 2015, half of the Nobel Prize in Physiology or Medicine was awarded to William C. Campbell and Satoshi Ōmura for discovering avermectin, "the derivatives of which have radically lowered the incidence of river blindness and lymphatic filariasis, as well as showing efficacy against an expanding number of other parasitic diseases" (Effereth et al (2015).

The use of age-old Dahi (curd), honey and rice grains in Ayurveda; In the past, in India, there was a tradition in every house to keep Dahi (curd), Rice grain and Honey for years to be used in medicine when asked by the physicians (*Vaidya*) for certain ailments and diseases. What was the purpose for keeping the material for such a long time, it is not known but it was possibly the use of unknown microorganisms, which developed on the material and were used as medicine possibly as an antibiotic. This information must be tapped and recorded for future research. It may be possible that effectiveness could be found due to a new antibiotic still undiscovered.

On the therapeutics of Indian medicinal plants: About Indian Medicinal plants Mhaskar, Cais (1930) stated, " Critics- for such men, who regret to say, do exist-condemn the study of indigenous medicinal plants on the plea that there is "nothing" in them. Such men forget that it is just as important for the welfare of a poor suffering human to denounce a drug in vogue as useless as to proclaim it useful. It is in this spirit that we have under taken our investigation into the therapeutic properties of Indian medicinal Plants."

Proceeding further he discloses the cure of glycosuria and blood sugar. of *Gymnema sylvestre*, when taken orally or by injection it is stomachic, stimulant, diuretic and laxative but when taken along with other plants, such as *Butea frondosa* (Plash), *Hydrocotyl asiatica* (Brahmi), *Melia azadirach* (Neem) and *Eugenia jambolana* (Jamun) seeds, This cures full blood sugar and this ought to find a place in the treatment of glycosuria (a condition characterised by an excess of sugar in the urine, typically associated with diabetes or kidney disease).

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