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Contribution of Dravyaguna to Herbal Materia Medica

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History of Evolution of Dravyaguna

Dravyaguna is essentially compilation of ancient Indian medical knowledge. According to one estimate, 850 medicinal plants are used in Ayurveda, the Traditional Indian Medicine (TIM). If history of Ayurvedic system is explored, it can be seen that during the Vedic period, the mode of study was oral communication. Later on several texts (*samhita*) including *Charaka Samhita, Sushruta samhita, Agnivesha samhita, Bhela samhita, Prashara samhita*, and *Kashyapa samhita* were composed.

Later on, scholars in the medieval time felt the need to assemble the work on Ayurveda at one stage and several *nighantu* were composed. The roots of the word *nighantu* lie in nigama; which means a secretive thing. *Nighantu* are considered to be nucleus of Ayurvedic philosophy. Majority of the work was done between eight to fifteenth century A.D. Important *nighantu* are tabulated below:

Sno	Name of the nighantu	Author	Time
1.	*Astangta*	Vagbhata	8th
2.	*Paryaya ratnmala*	Madhava	9th
3.	*Dhanvantri*		10th
4.	*Arundutta*	Arundutta	12th
5.	*Sodhala*		12th
6.	*Madhava Dravyaguna*		13th
7.	*Hrdaya deepika*	Bopadev	13th
8.	*Madanpala*		14th
9.	*Kaiadeva*		15th

Table 1. It shows work on *nighantu* written between 8th to 15th centuries.

After sixteenth century, several nighantus were composed. These are tabulated below:

Sno	Name of the nighantu	Author	Time	Salient feature
1.	*Bhavapraksha*	Bhavamishra	16th	Description of rasa karpura.
2.	*Raj nighantu*	Madhava	17th	Special account on Dravyaguna
3.	*Siva kosha*	Shiva dutta	17th	Self explanatory
4.	*Nighantu sangraha*	Raghunatha	17th	
5.	*Shaligrama*	Shaligrama	17th	Account of modern drugs
6.	*Vanaushadi gunadarsa*	Shankaradaji	19th	

7.	*Hrdaya deepika*	Bopadev	13th
8.	*Madanpala*		14th
9.	*Kaiadeva*		15th

Table 2. It shows work on nighantus written after 16th century.

Works done in 20th century are tabulated below:

Sno	Name of the nighantu	Author	Salient feature
1.	*Vanaushadi darpana*	Gupta	
2.	*Vanaspati shastra*	Thakur	Account on flora of Gujarat.
3.	*Vanaushadi chandrodaya*	Bhandari	Ten volumes
4.	*Nighantu sangraha*	Raghunatha	
5.	*Dravyaguna vigyanama*	Yadavji	Account of rare drugs
6.	*Dravyaguna vigyana*	Sharma	Chemical composition
7.	*Aushadi shastra*	Divedi	Authentically work
8.	Glossary of vegetable drugs	Singh	

Table 3. It shows work on nighantus written in the 20th century.

Vedic era is considered to be golden period for *Ayurveda*. Onset of Mogul and British Empire was major setback to Ayurveda. Although Ayurvedic practice was banned in India but during the British Empire, Indian medicinal plants were subjected to scientific investigations and several texts were composed. Materia Medica composed during the British Empire was based on ancient Indian medical knowledge but work on chemistry of the Indian medicinal plants was salient feature.

Some modern works are tabulated below:

Sno	Name of the work	Author
1.	Medicinal Plants of India and Pakistan	Dastur
2.l	Ayurvedic Drugs and their Plant Sources	Sivarajan
3.	Indian Herbal Pharmacopoeia	Anonymous
4.	Ayurvedic Pharmacopoeia	Anonymous
5.	Ayurvedic Formulary of India	Anonymous
6.	Clinical Applications of Ayurvedic and Chinese Herbs	Bone
7.	Handbook of Ayurvedic Medicinal Plants	Kapoor
8.	Directory of Indian Medicinal Plants.	Anonymous
9.	Indigenous Drugs of India	Chopra, Chopra, Handa and.Kapur.
10.	Glossary of Indian Medicinal Plants	.Chopra, Nayar and.Chopra.
11.	Dravyaguna Siddhanta	Dhayani
12.	The Wealth of India	Krishnamurthy
13.	Drug Plants of India	Agarwal
14.	Encyclopedia of India Medicine	Rao
15.	Indian Materia Medica	Nadkarni
16.	Indian Medicinal Plants	Kirtikar and Basu
17.	Indian Medicinal Plants	Varier
18.	Medicinal Plants of India with Special Reference to Ayurveda	Nair and Mohnan
19.	The Wealth of India	Anonymous
20.	Classical use of Medicinal Plants	Sharma
21.	Some Controversial Drugs in Indian Medicine	Vaidya
22.	A Handbook of Dravyaguna	Ojha

23.	Dravyaguna Siddhanta	Dhyani
24.	Materia Medica of Ayurveda	Dash
25.	Pharmacographia Indica	Dymock, Warden and Hooper
26.	Indian Materia Medica and Their Therapeutics	Khory and Khory

Table 4. It shows recent work on Indian medicinal plants.

Nomenclature of medicinal plants in Ayurveda

Medicinal plants in Ayurveda have several Sanskrit names and synonyms ranging from two to many. The scholars classified medicinal plants mostly on basis of morphological and organoleptic characters. *Ashwagandha*, the name has been derived from smell of the plant resembling that of horse stool. *Sarpagandha* has been derived from serpentine shape of roots. *Dughdpheni* has been derived because of the milky latex present in the drug. Although classification mentioned in Ayurvedic texts is of little significance in toady's scientific world but its importance cannot for ruled out. Some drugs used in Ayurveda are of controversial origin and the ancient knowledge can be of great help in naming the plants according to taxonomic standards. Even thephytochemicals derived from medicinal plants are named according to its biological source; examples are jatamansone and shankhpushpine.

Groups of drugs used in Ayurveda

In *Ayurveda*, medicinal plants have been classified according to pharmacological action. *Charaka* has described drugs in group for alleviating diseases. Like arshoghana contains ten drugs having beneficial effect in hemorrhoids (See *Charaka Samhita* or Text book of *Dravyaguna* for details). Another method adopted by *Charaka*, is based on collection of three or more plants having identical properties in one group. *Gana* in *Ayurveda* signifies groups. Major drug groups of *Ayurveda* are discussed below:

Brahatpanchmula: It is combination of roots of five medicinal plants including Bilva (*Aegle marmelos*), Agnimantha (*Premna integrifolia*), Shoynaka (*Oroxylum indicum*), Gambhari (*Gmelina arborea*), and Patla (*Sterospermum suaveolens*).

Laghupanchmula: It is combination of roots of five medicinal plants including Shalaparni (*Desmodium gangeticum*), Prishparni (*Uraria picta*), Brahati (*Solanum indicum*), Kantkari (*Solanum xanthocarpum*), and Gokshura (*Tribulus terrestris*).

Dashmula: It is combination of roots of ten medicinal plants including Bilva (*Aegle marmelos*), Agnimantha (*Premna integrifolia*), Shoynaka (*Oroxylum indicum*), Gambhari (*Gmelina arborea*), Patla (*Sterospermum suaveolens*), Shalaparni (*Desmodium gangeticum*), Prishnaparni (*Uraria picta*), Brahati (*Solanum indicum*), Kantkari (*Solanum xanthocarpum*), and Gokshura (*Tribulus terrestris*).

Triphala: It is combination of fruits of three medicinal plants including Haritaki (*Terminalia chebula*), Vibithaka (*Terminalia belerica*), and Amalaki (*Emblica officinalis*).

Trimada: It is combination of three medicinal plants including Vidanga (*Embelia ribes*), Nagarmotha (*Cyperus rotundus*), and Chitraka (*Plumbago rosea* or *P. zeylanica*).

Trikatu: It is combination of three medicinal plants including Pipali (*Piper longum*), Maricha (*Piper nigrum*) and Sunthi (*Zingiber officinale*).

Chaturushana: It is combination of Trikatu and Pipalimoola (roots of *Piper longum*).

Panchakola: It is combination of five medicinal plants including Pipali (*Piper longum*), Pipalimoola (roots of *Piper longum*), Chavya (*Piper chaba*), Chitraka (*Plumbago rosea* or *P. zeylanica*) and Sunthi (*Zingiber officinale*).

Shadushna: It is combination of Panchkola and Maricha (*Piper nigrum*).

Chaturabeeja: It is combination of seeds of four medicinal herbs.

Jivnayagana: It is combination of Ashtavarga, Masaparni (*Teramnus labialis*), Mudgaparni (*Phaseolus trilobus*), Jivanti (*Leptadenia reticulata*) and yastimadhu (*Glychyrrhiza glabra).*

Ashtavarga: Group of eight medicinal plants including Jivaka (*Melaxis mucifera*), Rishbhaka (*Melaxis acuminata*), Meda (Botanical identity is not clear), Mahameda (*Polygonum verticillatum*), Kakoli (*Roscoea purpuera*), Ksihra-kakoli (*Paris polphylla*), Riddhi (*Hebenaria intermedia*) and Vriddhi (*Hebenaria edegwothi*).

Trijata: It is combination of Darchini (*Cinnamonum zeylanica*), Ela (*Cinnamonum cardamom*), and Tejpatra.

Chaturjata: It is combination of Darchini (*Cinnamonum zeylanica*), Ela (*Cinnamonum cardamom*), Tejpatra, and Nagkeasra (*Meusa ferrea*).

Panchtikta: It is combination of Brahati (*Solanum indicum*), Giloy (*Tinospora cordifolia*), sunthi (*Zingiber officinale*), pushkarmula (*Saussurea lappa*), and chirata (*Swertia chirata*).

Dravyaguna in modern age

Critical study of *Dravyaguna* is essential for exploring its full strength. Drugs derived from Indian medicinal plants, either single or polyherbal, have been subjected to animal (preclinical) testing and promising results have been published in indexed journals. Several coded formulations have been screened for large scale clinical trials. *Dravyaguna* has definite role to offer as far discovery of novel leads and hits are discovered. A fraction of plants described in Indian Materia Medica has been scientifically tested.

Medicinal plant like *Aswagandha, Brahami, Mandukparni, Kalmegha, Chiryata, Guggul, Kutki* and *Shatavari* are integral part of Western Herbal Materia Medica. It is worthwhile to note that several Indian medicinal plants are part and parcel of American Herbal Pharmacopoeia (AHP) and British Herbal Compendium (BHC). Scenario for *Dravyaguna* is changing and it has become an interdisciplinary rather than conventional subject. Recently bioinformatics tools have been applied for integrating Indian medical knowledge at one platform.

Dravyaguna has made significant contribution to the Herbal Materia Medica. The term 'Herbal Materia Medica' covers global medicinal plants and is not restricted to one or other traditional systems of medicine. *Dravyaguna* coupled with 'Reverse Pharmacology' can act as powerful tool for discovering cost-effective and potent medicines.

Note: The article is based on personal experience of the author.