EXPERIMENTAL HOMOEOPATHY: A REVIEW*

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INTRODUCTION

The science of Homoeopathy based on law of similars has stood the test of time as more than 200 years have passed when the foundation of this system was laid by Dr. Samuel Hahnemann for the benefit of the society. In spite of rapid and enormous changes that have taken place during these long years, the principles of Homoeopathy have remain unchanged. The contributions of Homoeopathy are great as its materia medica provides remedies against ailments which other systems have failed to provide. The novelties of homoeopathic remedies are many—easy to prepare, pleasant and sweet to taste, cheap, non-poisonous and non-toxic to plants, animals and man. Besides, such medicines have no side-effects and are administered in minimum and infrequent doses which also avoids surgery in many instances.

However, the science of Homoeopathy has not advanced like Allopathy or any other branch of science in spite of several advantages of this system. The reasons are: (i) conservative looks of homoeopaths, (ii) their hypersensitivity to scientific enquiry of how and why of it, (iii) their plea that many phenomena of the universe cannot be explained with the present day knowledge, which is a wrong concept, and (iv) unawareness of experimental scientists of other disciplines. It is highly distressing that homoeopaths still have to quote or take the support of someone for proving the efficacy of their drug. It would not have been so if experimental approach was adopted. Since homoeopathic remedies cure patients in properly diagnosed cases therefore, it is obligatory to conclude that such drugs bring definite changes in the body of recovered patient. It is compelling to make such conclusions in the absence of experimental approach.

The symptoms observed during drug proving directly on human subjects and also while prescribing a drug are only one aspect of the total drug effect. Answers to many questions of efficacy of homoeopathic medicines cannot be given by direct proving on humans unless newer methods are evolved or experimental approaches are adopted. In addition, quantification of total drug effect on tissues, organs and cells by different parameters along with biochemical, biophysical, immunological and immunopathological approaches are extremely essential to prove the scientificity of homoeopathic remedies. In fact, all modern methods of investigations as applicable to other disciplines are to be applied in experimental Homoeopathy. Unless this is done, the science of Homoeopathy will not advance as it has not advanced so far

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in spite of voluminous information that its materia medica contains. It is high time and sacred duty of the homoeopaths world over to shun their conservative outlook and re-organise both their thinking and discipline for bringing up this system at par with any other system of medicine.

Through the present review of experimental Homoeopathy, compiled for the first time, attempts are being made to bring all scattered information at one place so as to give a bird's-eye view of the state of knowledge in this field. The recent developments in homoeopathic research are as follows.

ANTI-FERTILITY

Although considerable work has been done and a number of contraceptives are in use yet a hundred per cent effective, safe and cheap contraceptive easily acceptable to all have not emerged so far. This has lead to probe homoeopathic medicines. Pulsatilla nigricans and Pinus lambertiana are the two homoeopathic medicines that have been investigated in this regard.

Pulsatilla nigricans: The effect of Pulsatilla in 30, 200, 1000 and 10,000 potencies have been investigated in regularly cycling female albino rats. The medicine in 30 and 200 potencies have both anti-estrogenic/progesteronic properties as is evident from its action on uterus and vaginal smears.

Consequent to administration of the medicine there was increase/decrease in the weight of ovaries, uterus, thyroid in addition to increase/decrease in cellular constituents of these organs as well as in height of certain cells as evident from histological and histochemical changes of the animals treated by medicine. The estrogenic and progesteronic properties of Pulsatilla in different potencies were found comparable to a known progesteronic or estrogenic drug. The tissue changes are shown in Table 1. Pulsatilla in 1000 potency caused foetal resorption due to augmentation of immune response when the medicine was given on 1st, 2nd, 3rd, 7th, 8th and 10th days of pregnancy. The medicine in this potency is considered a safe and non-toxic fertility control agent. The cellular changes of Pulsatilla 1000 and 10,000 are shown in Figs. (1-A, B, C). The effect of Pulsatilla in 30 and 200 potencies were also studied in estrogen primed, ovariectomised and immature rats besides parallel effects of Pulsatilla compared to exogenous leutocycline. For the details on Pulsatilla, see Chandra Shekhar 1976; Chandra Shekhar *et al* 1976, Prasad and Chandra Shekhar 1977, 1978 and Saraswathi *et al* 1981. Chatterjee (1981) reported that he succeeded in inducing abortion in mid term gestation in a crossbred Alsatian bitch by administering repeated doses of Sarcocil with Pulsatilla 200. In other study, Chatterjee evaluated five homoeopathic medicines in 2X, 30, 200 & 1000 potencies in laboratory rodents and showed that some of these medicines when used in higher doses (4-8 drops/rat/day for 7 days, oral feeding) caused antifertility activities as was judged by the absence of pregnancy or signs of foetal resorption.

Pinus lambertiana: The effect of Pinus, a homoeo. drug, on development of foetus was studied by Paul *et al* in 1979. The drug administered

TABLE I

NUMBER OF VESICULAR AND ATRETIC FOLLICLES IN THE OVARY AND EPITHELIAL CELL HEIGHT OF UTERUS IN CONTROL AND EXPERIMENTAL RATS (PULSATILLA TREATED)

Tissues	Control or experimental	1 day	3 days	5 days
Number of	Control	15.25 ± 0.95	15.25 ± 1.03	18.25 ± 0.69
vesicular	30 potency	9.5 ± 0.29!!	10.25 ± 0.66!	12.25 ± 0.85!!
follicles/ovary	200 potency	10.0 ± 1.08!	9.5 ± 0.05!!	10.75 ± 0.85!!
Number of	Control	11.5 ± 0.65	8.75 ± 1.38	13.5 ± 1.09
atretic	30 potency	22.0 ± 1.29!!	19.5 ± 2.36!	14.25 ± 0.48
follicles/ovary	200 potency	20.0 ± 0.91!!	19.5 ± 0.65!!	15.75 ± 1.11
Epithelial	Control	20.57 ± 4.62	14.45 ± 0.98	21.05 ± 3.94
cell height of	30 potency	24.99 ± 2.14	17.0 ± 1.80	22.95 ± 4.11
uterus (in micra)	200 potency	13.35 ± 1.73	12.25 ± 1.84	12.34 ± 1.85

! = $P < 0.01$!! = $P < 0.001$

Courtesy : S. Prasad & K. Chandrasekhar (1978)

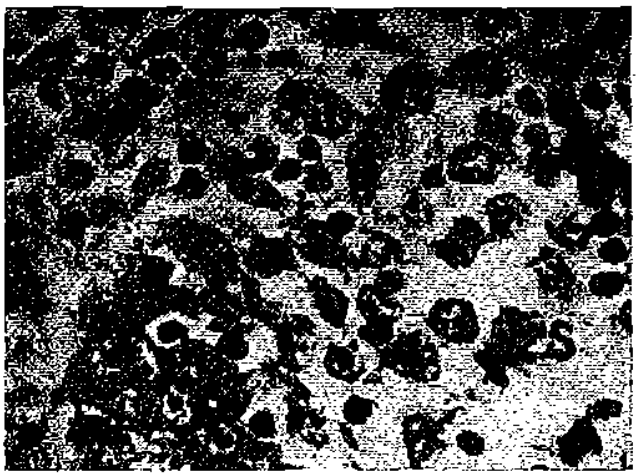

Figure 1-A—Control—No infiltration of lymphocytes into endometrium (Courtesy—Chandrasekhar *et al* 1981).

Figure 1-B—Heavy infiltration of lymphocytes (L →) especially at the site of implantation stromal cells caused by treatment with Pulsatilla 1000. (Courtesy—Chandrashekhar *et al* 1981).

daily from 6th day to 12th day of pregnancy and on sacrificing on 20th day showed termination of pregnancy and complete foetal resorption (Fig. 2). The termination of pregnancy was probably due to its action in hypothalamo-hypophyseal gonadal axis. The possibility of direct action of this drug on the ovary or on the embryo in the interruption of pregnancy is also not ruled out.

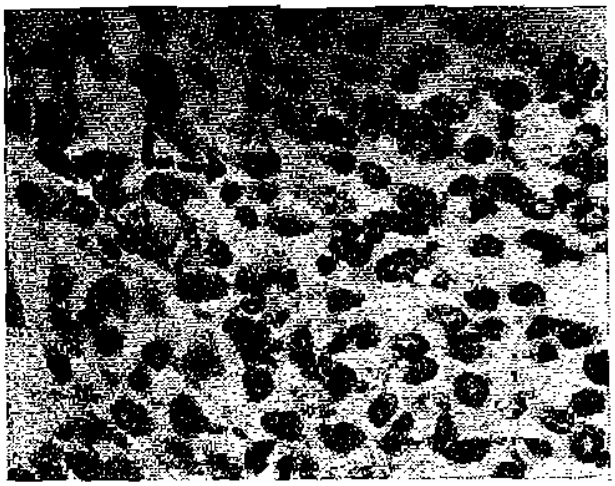

Figure 1-C—Pulsatilla 10000 potency treated infiltration of lymphocytes (L ->) into endometrium but comparatively less than Fig. 1-B. (Courtesy—Chandrasekhar *et al* 1981).

Figure 2—Anatomical picture of uterus of *Pinus lambertiana* treated rats showing the traces of implantation beads undergoing resorption. (Courtesy—Paul *et al* 1979).

STEROIDOGENESIS

Natrum muriaticum, a commonly used homoeopathic medicine was investigated for inducing steroidogenesis in adrenal cortex. The results obtained from histochemical observations revealed that the medicine enhanced two enzymatic activity of Δ^5—3 HSD and Glucose-6 phosphate dehydrogenase after its administration in 30 potency. The steroidogenetic effect was probably due to an increase in synthesis of steroid hormone in zona glomerulosa (Paul *et al* 1980).

Alloxan: Alloxan and Streptojotacine in 30 potency have demonstrated the curative effect in experimentally induced diabetes in rats, as was known from the reduction in blood sugar levels. However, unpotentised preparations of these medicines were found ineffective in curing experimentally induced diabetes. Through these observations the principles of dynamisation, the law of similars and the bases of a new science of Ultramicroxenopathy have been proved. The potentised Alloxan 30 lowered blood sugar to normal values in less than 44 days (Sharma *et al* 1982) if the drug was given on 7 days. However, it failed to do so if the start of the treatment was delayed.

ANTI-MICROBIAL ACTIVITY

Finding out cheap, effective and safe drugs or chemicals for control of diseases of plants, animals and man have been the quest from very inception. Continued search for antimicrobial agents has lead to the development of many chemicals or drugs but their continued use has produced drug resistance and many adverse effects. A safe drug which is within the reach of a common man is need of the hour. Homoeopathic medicines having the reputation of being cheap, non-toxic and safe are currently being investigated for their varied biological effects as an alternative. The developments of antimicrobial activity of these drugs are as follows.

Fungus: At least twenty homoeopathic medicines in various potencies have been evaluated against a variety of phyto-pathogenic fungi in recent years by a number of workers (Khanna & Chandra 1972, 1976, 1977, 1980, 1981, Dutta 1976-77, Singh & Gupta 1981 and Geeta Singh 1983). Though the anti-fungal effect of homoeopathic medicines varied with the fungus and the medicines, certain medicines completely prevented the fungus growth. In addition, they induced morphological alterations in the germ tube, coiling of the germ tubes and induced precocious formation of conidia. The abnormalities in the germ tubes of *Pestalotia mangiferae* (causing mango rot) and *Gloeosporium psidii* (rot of guava) at different stages of developments are shown in Fig. 3. (Khanna and Chandra 1976). Dr. B. Geetha Singh reported efficacy of some homoeopathic medicines against keratinophilic fungi as was evident from reduction in mycelial weight and radial growth (Tables 2 & 2a). The results of anti-fungal effects of some homoeopathic medicines are shown in Table 3 and Fig. 4 (Gupta and Singh 1981).

Bacteria: The anti-bacterial activity of many homoeopathic medicines against phytopathogenic bacteria was tested by Moses (unpublished). The

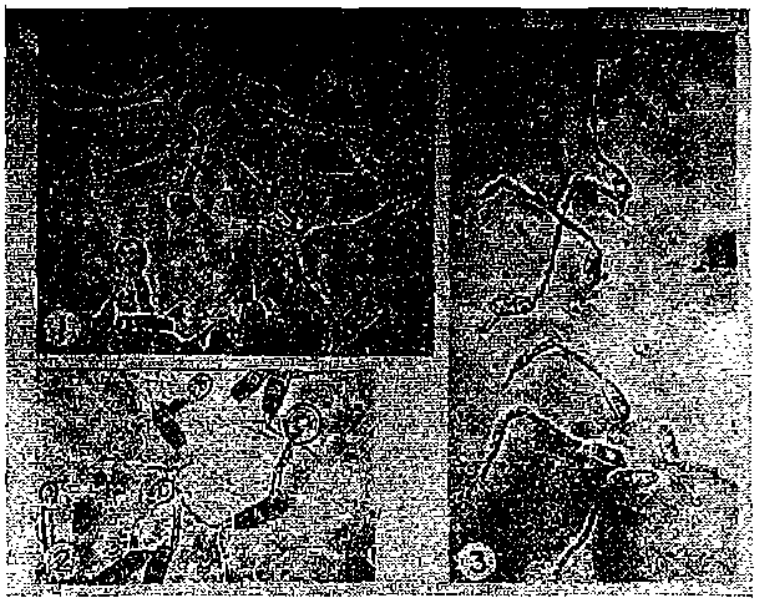

Figure 3(1)—Initial stages in the development of bladder like structure on the germ tubes of *P. mangiferae* caused by Kali iod. 81 potency.
Figure 3(2)—Fully developed bladder like structure of *Pestalotia mangiferae*.
Figure 3(3)—Germ tubes of *Gloeosporium psidii* showing bents at right angles. (Courtesy—Khanna & Chandra, 1976).

TABLE 2

EFFECT OF HOMOEOPATHIC MEDICINES ON THE RADIAL GROWTH OF KERATINOPHILIC FUNGI

Medicines	Potency	Percentage of inhibition in radial growth*			
		A	B	C	D
Bacillinum	30	40	10	50	40
	200	45	15	65	45
	1000	85	65	70	75
Fagopyrum	6	50	15	12	45
	200	65	25	20	55
	1000	95	60	65	88
Petroleum	6	25	15	—	10
	200	45	20	25	15
	1000	50	25	50	20
Sepia	30	25	10	50	40
	200	35	15	55	45
	1000	80	50	60	65

*Each datum shown in the table is an average of two independent determinations.
A — *Nannizia incurvata* strain (+) B — *Nannizia incurvata* strain (—)
C — *Malbranchea aurantiaca* D — *Botryotrichum keratinophilum*

TABLE 2a

EFFECT OF HOMOEOPATHIC MEDICINES ON DRY MYCELIAL WEIGHT

Medicines	Potency	Percentage of inhibition in mycelial weight*			
		A	B	C	D
Bacillinum	1000	95	80	85	90
Fagopyrum	1000	98	90	92	95
Sepia	1000	90	80	85	85

*Each datum shown in the table is an average of two independent determinations.
A — *Nannizia incurvata* strain (+) B — *Nannizia incurvata* strain (—)
C — *Malbranchea aurantiaca* D — *Botryotrichum keratinophilum*

Courtesy : Dr. B. Geetha Singh (1983).

medicines like Arsenic album, Pulsatilla, Cedron, Hydrastis, Chenopodium and Blatta orientalis in 200 potency showed varying degree of bacterial inhibition. In addition, Pulsatilla in various potencies have also been found effective against Pseudomonas isolated from skin infection both by zone inhibition and colony reduction test on nutrient agar plates (Singh and Gupta—unpublished).

Plant viruses: A total of thirty-two homoeopathic medicines in different

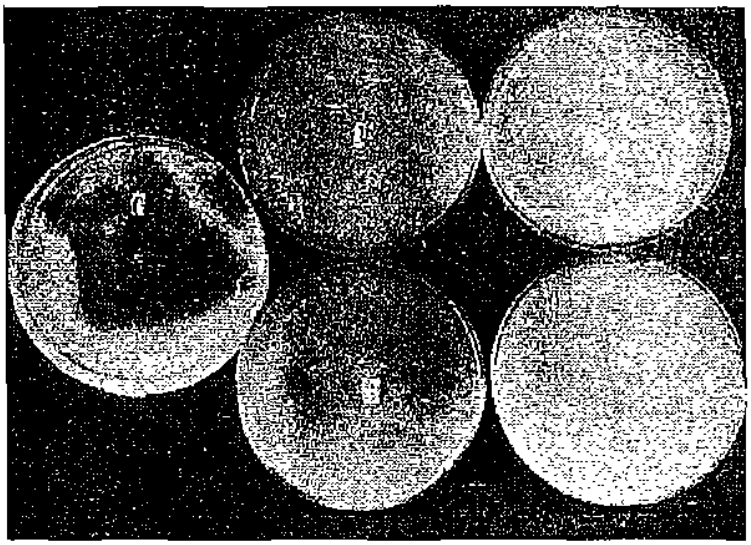

Figure 4—Culture plates inoculated with *Alternaria tennis*, a common leaf spot pathogenic fungi. 0 = Control, 1 = Bacillinum 30, 2 = Fagopyrum 200, 3 = Petroleum 6, 4 = Sepia 30, (All the medicines showing 100% inhibition of fungi *in vitro*). Courtesy—S. Singh & G. Gupta, 1981.

TABLE 3

EFFECT OF HOMOEOPATHIC MEDICINES ON THE GROWTH OF A. TENUIS AND C. LUNATA, THE COMMON LEAF SPOT FUNGI

Medicines	Potency	Percentage inhibition of growth	
		A. tenuis	*C. lunata*
1. Bacillinum	30	100	60
	200	100	55
	1000	100	25
2. Lycopodium	30	20	15
	200	100	—
	1000	44	48
3. Fagopyrum	6	40	30
	200	100	100
	1000	100	85
4. Ustilago	6	30	100
	200	0	25
	1000	100	30
5. Petroleum	6	100	80
	200	100	100
	1000	100	45
6. Tellurium	30	20	50
	200	56	60
	1000	40	15
7. Sepia	30	100	48
	200	100	50
	1000	100	52
8. Sulphur	1000	0	92
9. Sulphur iod.	6	40	100
	30	50	45
	1000	100	100
10. Mezerium	6	40	10
	200	80	40
	1000	100	60
Control	—	—	—

Courtesy : Dr. Sundara Singh & Dr. Girish Gupta (1981)

potencies and twelve biochemic medicines have been evaluated for their anti-viral property against a variety of plant viruses. Some of these medicines have shown virus inhibitory property while a few have shown virus enhancing property. Since these drugs are highly effective in reducing virus lesions both in systemic and local lesion host system whether given before or after virus infection, they hold great promise of emerging as potential inhibitors of plant viruses (Verma *et al* 1969, Khurana 1971, 1980, 1981, Abidi *et al* 1977, Singh *et al* 1980). In addition to their anti-viral efficacy the

medicines are reported to have healing effect on the host plants and if sprayed before virus inoculation, they induce anti-viral aetivity (Verma *et al* 1969). Abidi in his study found that some of the homoeopathic medieines increased incubation period of the virus. The results of anti-viral activity of some homoeopathie medieines are shown in Table 4. Varma and Awasthi 1978 also tested the efficacy of all the twelve bioehemic medicines and found that some of them decreased the number of lesions whether the virus was applied before or afterwards within the hours. In their earlier work Verma and Verma (1963), Verma (1971) and Verma *et al* (1974) demonstrated that these biochemic medicines probably modify the host metabolism which are conducive for virus multiplication.

Human & animal viruses: Discovering anti-virals that should directly and specifically interact with the component 'S' of the virus particle and stop its multiplication without disturbing the physiological functioning of infected host cell and also having clinical potentials and margin of safety is the main theme of viral chemotherapy. Though the search for anti-virals had continued even much before the search for anti-bacterial started, still a clinically safe anti-viral drug for nse against viral infection of man and animal is not in the world market. Homoeopathic medicines demonstrated for their anti-viral activity against some plant viruses as stated earlier in the present review have so far not been investigated against viral infections of man and animal. In view of this, a programme of screening of homoeopathic medicines against human and animal viruses was taken up recently in the Department of Virology, at Central Drug Research Institute, Lucknow, sponsored by Central Council for Research in Homoeopathy, New Delhi. The results obtained as evident from Table 5 and Figure 5 clearly demonstrate that some of these medicines have marked anti-viral activity against animal viruses too. This opens new vistas for further research and also provides lead in their direct use in prophylaxis and treatment against viral infections in man and animal. These drugs have been found highly effective in preventing virus replication whether given before, simultaneously or even after virus inoculation in the host. Further work in this direction is in progress.

Insect and pest control: Goswami and Das (1980) reported utility of homoeopathic medicines in the control and eradication of scale insects on lovely orchid plant and T-roses. In their study they demonstrated that Staphisagria, a homoeopathic medicine, was highly effective in the control of plants infested with insects.

AGRO-HOMOEOPATHY

There seems to be a great potential for using homoeopathic medicines in agriculture both from the viewpoint of controlling the various phytopathogens and also increasing agricultural production of grains, fruits and vegetables. The results summarised below of some of the experiments definitely suggest great utility of this system in this field.

Idris (1967) was the first who demonstrated that Sulphur 30 was highly

TABLE 4

ANTI-VIRAL EFFECTS OF THE HOMOEO. MEDICINES AGAINST INFECTION OF PLANT VIRUSES IN THEIR HYPERSENSITIVE AND SYSTEMIC HOSTS

% Inhibition of the virus with the potency (Effect of 1M potency was practically negligible in all the cases)

Medicines	Type of host	TMV			TMV-tm			CMV			PVX			PVY			SCMV		
		ϕ	30	200	ϕ	30	200	ϕ	30	200	ϕ	30	200	ϕ	30	200	ϕ	30	200
Thuja o.	H	60	85	50	40	45	10	80	85	35	70	80	40	60	80	45	—	—	—
,,	S	70	100	85	—	—	—	80	90	50	60	100	50	—	—	—	45	80	60
Sulphur	H	80	80	55	80	90	65	60	70	30	80	95	40	30	55	40	—	—	—
,,	S	90	90	70	—	—	—	50	85	45	—	—	—	—	—	—	20	40	30
Chenopodium	H	55	50	30	50	70	30	75	80	60	50	50	35	15	25	25	—	—	—
,,	S	30	75	40	—	—	—	80	100	70	—	—	—	—	—	—	—	—	—
Carbo veg.	H	50	55	40	40	75	15	50	60	30	40	50	35	—	—	—	—	—	—
,,	S	60	75	40	—	—	—	—	—	—	35	40	20	—	—	—	30	35	20
Apis m.	H	25	35	40	10	20	15	25	30	25	40	50	35	40	65	35	—	—	—
,,	S	—	—	—	—	—	—	—	—	—	35	50	20	—	—	—	30	60	55
Belladonna	H	15	20	10	30	40	30	20	35	20	30	40	30	20	40	25	—	—	—
,,	S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	15	20
Bryonia a.	H	15	25	10	20	30	10	15	20	15	40	35	35	—	—	—	—	—	—
,,	S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	40	30
Arsenic a.	H	10	15	10	15	20	15	20	40	15	30	35	10	30	35	20	—	—	—
,,	S	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

— = Not tested, H = Hypersensitive (local lesion) and S = Systemic host.

Courtesy : Dr. S. M. P. Khurana (1980)

TABLE 5

ANTI-VIRAL PROPERTY OF HOMOEOPATHIC MEDICINES AGAINST VIRUS INFECTING CHICKEN EMBRYO

Drug	Potency	% Inhibition of virus
1. Pyrogenium	1000	100%
2. Parotidinum	200	100%
3. Eupatorium perf.	6	75%
4. Agaricus m.	1000	50%
5. Nux vomica	30	25%
6. Aconite nap.	30	20%

Courtesy : Dr. L. M. Singh & Dr. Girish Gupta (unpublished)

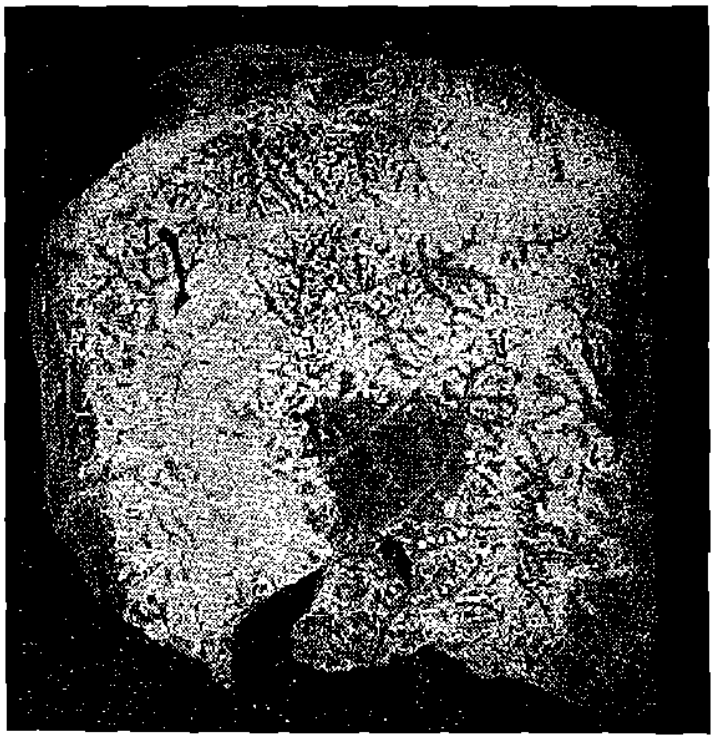

Figure 5A—Photograph showing 100% infection of chicken embryo virus the chorio-alantoic membrane of 12 days old chicken embryo (control). Courtesy—L. M. Singh & Girish Gupta, 1984.

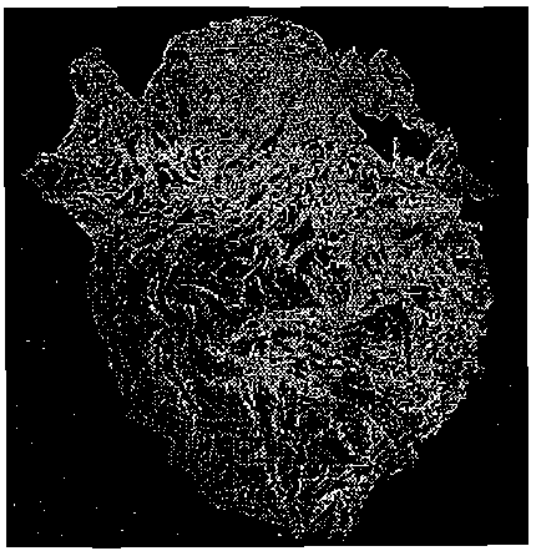

Figure 5B—Chorio-allantoic membrane showing 100% inhibition of the same virus by homoeopathic medicine, Pyrogenium 1000. (Courtesy—L. M. Singh & Girish Gupta, 1984).

effective in controlling the amphids of bean and Natrum sulph. 30 cured the ill-effeets of water logging in papaya. Dropping of mango fruits due to extreme heat was stopped by Natrum mur. 30. The same medicine was found effective in removing salt retention in plants. Increase in size of mango fruits and marigold flowers by Kali mur. 12 besides stimulation and accentuation of assimilative powers of plants by Kali mur. 6 were a few of the observations that had beeu experimentally demonstrated. Dutta (1979) demonstrated that essential elements like Kali sulph., Mag. sulph., Cuprum sulph., Ziuc sulph. and Ferrum sulph. in 6 & 1000 poteneies produced toxic symptoms in wheat plants in water culture. He further observed that these toxic symptoms in a diseased plant can be cured by the elements producing similar symptoms in healthy plants. He also observed that toxie symptoms were more pronounced in higher potencies.

Khan (1980) demonstrated through his eighteen years of research in agrieulture that mixture of some homoeopathic medicines is very effective in increasing the agricultural production by 20 to 60%. The formula of this mixture is as follows:

1. Silica 9800 potency
2. Zine. phos. 99X potency
3. Mag. phos. 50X potency
4. Natrum phos. 13X potency
5. Sphronthus 8X potency

6. Lecithin 200 potency
*7. Sol 15000 potency.

ELIMINATION OF POISONS

The results of two unpublished reports demonstrate that poison like arsenic which has tendency to get fixed in liver and spongy bone marrow could be eliminated by a higher potency of arsenic. Thus homoeopathic medicines may be of great value in reducing the toxicity as well. The results presented in Table 6 show excretion of arsenic in pigeon which was subintoxicated by injection of arsenic in potentised form. Similar studies were also

TABLE 6

Strength of potency	Amount of arsenic excreted in g on day							
	0	1	2	3	4	5	6	Total
7th CH (3 days)	0	2	4	7	10	2	1	26
15th CH ,, ,,	?	2	3	6	9	3	1	24
30th CH ,, ,,	0	1	2	1	0	p	1	5

Courtesy : Boiron & Co., France (unpublished)

done in guinea-pigs by Lapp. Sankaran (1970) has discussed experiments of Bier (1925) and Wurmser (1957) in which infinitesimal dose of a substance markedly enhanced the urinary excretion of the same substance already fixed to the tissues. Bier reported the case of a patient suffering from seborrhoea who was put on Sulphur 3X. Following administration of potentised sulphur there was sixty times enhancement of sulphur excretion in the urine. This caused amelioration of seborrhoea. After two years of cessation of therapy, when the patient was symptom free, Sulphur 10X for ten days did not enhance excretion of sulphur in urine. These results are further confirmed by the study of Wurmser *et al* (1957) that in animals pretreated with bismuth and arsenic there was remarakable enhancement in urinary excretion of bismuth & arsenic when 4X, 5X and 7X potencies of both the elements were administered to respective experimental animals. These findings clearly proves the scope of employment of homoeopathic medicines in the field of toxicology.

HOMOEOPATHIC POTENCY

The mystery of how homoeopathic potencies work remained unresolved till recently. The fact that the higher the dilution the more potent is the drug sounds unconvincing to experimentalist or to a lay man who is not a homoeo-

*This drug belongs to the group of imponderablia and is made by exposing lactose to sunrays in a particular manner.

path. But in the light of the results this fact cannot be ignored. Studies of Dr. Aditya Kumar and Jussal (1978-79) have shown by microscopie examination, optical density and surface tension studies of Nat. mur. 30 and Sulphur 30 that during potentisation new dipole arrangement in solvent takes place which continue to take place even after the 12c poteney where no molecule of the basic drug could be detected. They concluded from their experiments that these dipolar arrangements in solvents are crucial for medicinal value of potentised drug. However, more studies using some other techniques should be conducted for additional explanation. The results of these experiments are presented in Table 7.

CONCLUSIONS

The results of research in Homoeopathy summarised in this review clearly show that homoeopathic medicines can be used in many ways. These medicines can be of great value in anti-fertility, diabetes and other diseases of men, animals and plants whether caused by fungi, bacteria, or viruses. In addition, it controls insects, parasites, reduces toxicity as well as increases agricultural production—all these without any adverse effects. The results further suggest that these medicines produce morphological, structural and histochemical changes besides augmenting the immune responses and act quickly both locally and systemically.

The clinical efficacy of these medicines and the research results of various investigations now clearly prove that the foundation of this system was laid on certain principles by a man of super intellect and vision whose name will remain immortal in the homoeopathic world. Thus it leaves no room for doubt about the clinical efficaey of these medicines or their scientificity.

Since homoeopathic medicines remain always fixed in their principles as in their practice which are energised and are in pure form, proved already on human beings and devoid of all ill-effects of modern medicines besides being economical and cheap, they should serve the suffering humanity especially in a country like ours and other developing countries where poverty, disease and hunger dominate.

It is a little surprising that in spite of its being the most suited system which has been in the service of mankind for more than two hundred years it has not advanced like other systems of medicine. This is because the homoeopaths themselves are contented with what they have inherited which also indicates their lack of interest in its overall advancement. Now, the time has come that this wonderful system of medicine must come in prominence by raising the standard of education, research and clinical practice. And the science of Homoeopathy should be given due recognition, encouragement and patronage in this country, where it is deeply rooted, and in other countries of the world as well. Swami Vivekananda, Mahatma Gandhi, Pandit Jawahar Lal Nehru, Rabindra Nath Tagore and all men of wisdom strongly advocated its wider use.

The homoeopathic materia medica which is so rich and which provides

TABLE 7

MEASURED VALUES OF $\frac{T}{T_o}$ DIFFERENCE IN SURFACE TENSION VALUES OF VARIOUS POTENCIES OF NATRUM MUR., A HOMOEOPATHIC MEDICINE

Potencies	Set I	Set II	B.T = I	B.T = II	M.B = I
6	1.009 ± 0.004	1.013 ± 0.004	1.000*	1.006 ± 0.003	1.000*
9	1.017 ± 0.004	—	—	—	—
12	1.010 ± 0.004	0.988 ± 0.004	0.969* ± 0.004	0.996 ± 0.003	—
15	0.997 ± 0.004	—	—	—	—
16	—	0.976 ± 0.004	—	—	—
18	0.992 ± 0.004	0.993 ± 0.004	—	—	—
21	0.977 ± 0.004	—	—	—	—
22	0.996 ± 0.004	—	—	—	—
24	1.001 ± 0.004	1.002 ± 0.004	—	—	—
27	1.007 ± 0.004	—	—	—	—
28	—	0.992 ± 0.004	—	—	—
30	1.000 ± 0.004	0.991 ± 0.004	1.011* ± 0.004	1.010 ± 0.003	1.031 ± 0.004

*Values of $\frac{T}{T_1}$

Courtesy : Dr. Aditya Kumar & Dr. R. L. Jussal (1979).

medicines even against those incurable diseases which other systems have failed to provide should be investigated in depth by modern methods and techniques and brought parallel to other systems of medicine. A co-ordinated multidisciplinary approach is need of the hour for achieving the objectives.

Though the research activities in experimental Homoeopathy are still fragmentary and are not investigated in depth, the results are very promising and open new vistas for further research. The science of Homoeopathy should find its way in most disciplines as it has tremendous future.

The bodies like World Health Organisation (W.H.O.) which is in the helm of affairs of world health and many other organisations, pharmaceutical industries, private bodies and governments of all countries should come to its rescue and give all kinds of help for all round growth of this system.

In conclusion, we would make bold to say that Dr. Samuel Hahnemann and his miraculous therapy were God's gifts to the world to serve suffering humanity.

BIBLIOGRAPHY

1. Abidi, S. M. H., Srivastava, K. M., Gupta, R. P. *et al*: 'Effect of Some Medicinal Drugs on Distortion Ring Spot Virus of Papaya', *New Botanist* (1977) IV, 13.
2. Chandrasekhar, K., Prasad, S., Rao, C. V.: 'Effect of Pulsatilla nigra, A Homoeo Drug, On the Uteri and Estrous Cycle in Albino Rats', *Journal Res. Ind. Med. Yoga & Homoeo.* (1976) 11, 4:48.
3. Chandrasekhar, K., Velichetti, Saraswathi: 'Morphological, Histological and Psychological Analysis of Anti-fertility Effects of Pulsatilla', *Quarterly Bulletin of CCRH* (1981) 3, 2:4.
4. Chatterjee, S. N.: 'Scope of Homoeopathy in Animal Science', *Advancing Homoeopathy*, (1981) 1: 86.
5. Chandra, S., Khanna, K. K.: 'Homoeopathic Drugs in the Control of Plant Diseases', *Recent Advances In the Biology of Microorganisms* (1982), 513.
6. Dutta, A. C.; 'Experiments with Inorganic Nutrients in Homoeopathic Dilutions on Plants and Existence of Microisotopes', THE HAHNEMANNIAN GLEANINGS (1976) XL, 3: 438.
7. Dutta, A. C.: 'Plant's Artificial Immune Response and Application of Homoeopathy in Agriculture', *Trans. Intern. Homoeo. Congress*, New Delhi (1977, Oct.).
8. Goswami, N., Das, D.: 'Possibilities of Homoeopathic Treatment in Plants and Animal Diseases', THE HAHNEMANNIAN GLEANINGS, (1980) XLII: 332.
9. Idris, S. M.: 'Plants and Homoeopathy', *Proc. Intern. Homoeo. Congress*, New Delhi (1967, Oct.): 12.
10. Jussal, R. L.: 'A Brief Report from Homoeopathic Research Directorate', *The Homoeopathician* (1978) 2: 78.
11. Khalsa, K. S., Khan, A. D.: 'Green Revolution by Homoeopathy', *Indian Journal of Homoeopathy* (1980) IV, 7: 299.
12. Kumar, A., Jussal, R. L.: 'A Hypothesis on the Nature of Homoeopathic Potencies', *The British Homoeopathic Journal* (1979) LXVIII, 4: 197.
13. Khanna, K. K., Chandra, S.: 'Effect of Some Homoeopathic Drugs on the Spore Germination of Four Isolates of *Alternario alternata*', *Indion Phytopothology* (1976) 29: 195.
14. Khanna, K. K., Chandra, S.: *Abstroct, Proc. Nat. Acad. Sci. Ind.* (1976) 72.
15. Khanna, K. K., Chandra, S.: *Indion Phytopothology* (1976) 29: 269.
16. Khanna, K. K., Chandra, S.: 'Control of Guava Fruit Rot Caused by Gloeosporium Psidii with Homoeopathic Drugs, *Plant Dis. Reptr* (1977) 61: 362.
17. Khanna, K. K., Chandra, S.: *Indian Phytopathology* (1977) 30: 320.

18. Khanna, K. K., Chandra, S. *Experiantia* (1978) 34: 167.
19. Khanna, K. K., Chandra, S.: 'A Homoeopathic Drug (Lycopodium) Controls Mango Fruit Rot Caused by *Pestalotia mangiferae Henn.*, THE HAHNEMANNIAN GLEANINGS (1980) 441.
20. Khanna, K. K., Chandra, S.: 'Homoeopathic Drug Induced Abnormalities in the Germ Tubes of *Pestalotia mangiferae, Gloeosporium psidii*', *Advancing Homoeopathy* (1981) 1: 35.
21. Khurana, S. M. P.: 'A Study of Virus Diseases of Papaya (*Corica papaya*)', *Doctoral Thesis* to University of Gorakhpur, U.P. (1968) 126.
22. Khurana, S. M. P.: 'Effect of Homoeopathic Drugs on Plant Viruses', *Planta Medica* (1971) 20: 142.
23. Khurana, S. M. P.: 'Homoeopathic Drugs Can Protect Plants from Viruses', *Abstract, Proc. Intern. Virol. Congress*, Strausbourg, France, Aug. 7, 1981.
24. Khurana, S. M. P.: 'Chemotherapeuic Potential of Homoeopathic Drugs Against Plant Viruses', *Souvenir, H.M.A.I.*, Lucknow Unit (1980) 29.
25. Khurana, S. M. P., Gupta, Girish.: 'Homoeopathy: Promise And Prospects for Plant Protection', *Advancing Homoeopathy* (1981) I, 197.
26. Moses, G. J., Reddy, A. G., Ramchandra, *et al*: 'Studies on Anti-bacterial Activity of Synthetic and Homoeopathic Compounds, and Plant Extracts on Phytopathogenic Bacteria *in vitro*', *An Abstract*, Department of Plant Pathology, Osmania University, Hyderabad.
27. Paul, B., Deb, C., Banik, S.: 'Effect of *Pinus lambertiana* on the Development of Foetuses in Albino Rats', THE HAHNEMANNIAN GLEANINGS (1979) XLVI : 276.
28. Paul, B., Deb. C., Banik, S.: 'Ovarian Steroidogenesis in Rats after Treatment with *Pinus lambertiana*', *Ind. J. Exp. Biol.* (1980) 18: 26.
29. Paul, B.: 'Influence of Natrum Muriaticum on Adrenocortical (Zona Glomerulosa) Steroidogenesis', THE HAHNEMANNIAN GLEANINGS (1980) XLVII, 2: 73.
30. Prasad, S., Chandrasekhar, K.: 'Effect of Pulsatilla 30 and 200 on the Ovaries, the Uterii and Thyroids of Female Albino Rats', *Proc. Ind. Acad. Sci* (1977) 85B, 2: 100.
31. Prasad, S., Chandrasekhar, K.: 'Effect of Pulsatilla on Ovary and Uterus of Pre-puberal and Ovary, Uterus and Thyroid of Estrogen Primed Pre-puberal Female Albino Rats', *Journ. Res. Ind. Med. Yoga & Homoeo.* (1978) 13, 4: 81.
32. Prasad, S., Chandrasekhar, K.: 'Effect of Pulsatilla Administered Pituitary Extracts of Ovariectomised Donor Rats on the Ovaries, Uterii and Thyroids of Normally Cycling Recipients', *Ind. Jour. Exp. Biol.* (1978) 16: 289.
33. Prasad, S., Chandrasekhar, K.: 'Parallel Effects of Pulsatilla and Exogenous Leutocyclin on the Rat Ovary, Uterus and Thyroid', *The British Homoeopathic Journal* (1978) LXVII, 4: 265.
34. Saraswathi, H. Velichetti, Chandrasekhar, K.: 'Effect of 1000, 10,000 Potencies of Pulsatilla, a Homoeo. Drug, on the Ovaries, Uterii and Arcuate Neurons in Albino Rats', *CCRH Quarterly Bulletin* (1981) 3, 1: 3.
35. Sharma, R. R., Agnihotri, A., Gogna, M. L., 'Experimental Support for Principles of Dynamisation, Law of Similars and for New Science of Ultramicroxenopathy', THE HAHNEMANNIAN GLEANINGS (1982) XLIX, 4: 168.
36. Sankaran, P.: *Some Recent Researches and Advances in Homoeopathy*, 3rd ed., 34–36, Bombay: Homoeopathic Publishers (1970).
37. Singh, B. P., Abidi, S. M. H.: *Tech. Com. Nat. Bot. Gardens*, Lucknow, 105 (1968).
38. Singh, B. P., Gupta, G. C., Srivastava, K. M.: 'Homoeopathic Drugs as Inhibitors of Tobacco Mosaic Virus', THE HAHNEMANNIAN GLEANINGS (1980) XLVII, 6: 265.
39. Singh, B. S., Gupta, Girish: 'Effect of Homoeopathic Drugs on the Growth of *Alternaria tenuis* Auct and *Corvularia lunota* (wakker) Boeidjn, the Common Leaf Spot Pathogens of Ornamental and Cultivated Plants', *Advancing Homoeopathy* (1981) 1: 117.
40. Singh, B. Geetha: 'Physiological and Biological Studies of Some Soil Inhabiting Keratino-

philic Fungi' *Ph.D. Thesis* to University of Sagar, M.P. (1981): 105.

41. Singh, B. Geetha: 'Sensitivity of Keratinophilic Fungi to Some Homoeopathic Medicines', THE HAHNEMANNIAN GLEANINGS (1983) L, 4: 154.
42. Sinha, K. P.: 'Agro-Homoeopathy—A Crying Need of the Hour', THE HAHNEMANNIAN GLEANINGS (1975) XLII, 9: 387.
43. Singh, L. M., Gupta, Girish: Annual Progress Reports for 1982–83, 1983–84, 1984–85 of the Scheme 'Screening of Homoeopathic Drugs Against Human and Animal Viruses' communicated to the Central Council for Research in Homoeopathy, New Delhi.
44. Singh, L. M., Gupta, Girish: 'Antiviral Screening of Homoeopathic Drugs Against Animal Viruses', THE HAHNEMANNIAN GLEANINGS (1985) LII, 1: 17–23.
45. Verma, G. S., Verma, H. N.: *Ind. Journ. Microbiol.* (1963) 3: 123.
46. Verma, H. N.: *Indian phytopathol.* (1971) 24: 354.
47. Verma, H. N., Verma, G. S., Verma, V. K. *et al.*: 'Homoeopathic and Pharmacopoeial Drugs as Inhibitors of Tobacco Mosaic Virus', *Indian Phytopathol* (1969) 22, 2: 188.
48. Verma, G. S., Verma, J. P.: *Current Trends in Plant Pathology* (1974): 83.
49. Verma, H. N., Awasthi, L. P.: 'Effect of Biochemical Drugs on the Infection of T.M.V.', *Geobios* (1978) 5: 84.
50. Wurmser, L.: 'Influence of Infinitesimal Doses on Elimination Kinetics', *The British Homoeopathic Journal* (1957) 46: 147.
51. A report entitled 'Retention and Mobilisation of Exogenous Toxins in the Pigeon' received from Boiron & Co, France, at IIIrd All India Homoeopathic Congress, Jaipur (1981).