

Effect of *Apthoryama yajna* on people and environment

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In traditional knowledge base of the *Vedas* mention that *Yajñas* have effect on the environment and people. *Yajnas* of various kinds are elaborated in the four *Vedas*. *Apthoryama yajña* is one such *yajña* in the *Soma yajña*. A large-scale *yajña* *Apthoryama yajña* was organized in Thrissur district of Kerala to evaluate the effects on environment, society and humans beings. In the study, following aspects were taken up: attitudinal survey, random event generator (REG) studies, bacterial count in the atmosphere and analysis from the *yajña*. Attitudinal survey showed that people came to *yajña* for spiritual reason and their life is affected from the spiritual activity. On measuring consciousness fields in the surroundings of *yajña* using (REG) has shown a significant change as measured at a distance of 12 m from the place of *yajña*. Air borne bacteria counts have shown an increase at 20 m distance as compared to 40 m. The speciation of the bacteria was not done. A study of ash filtrate of *yajña* was done using standard stain; the result of the filtrate was negative for bacterial growth and also for antibacterial activity after 6 months.

Key words: *Apthoryama Yajna*, Environment, Antibacterial activity

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Modern science is in a turning point and the matter-based approach is getting replaced by consciousness based approach with whole universe is now seen as living intelligent interconnected system^{1,2}. Eastern practices and philosophy is catching the attention of modern scientist to give new dimension to researches especially in the field of consciousness. The chanting of *mantras* produces vibrations, which can produce stimulating soothing effects in human beings as also in or animals. These vibrations reverberate and spread specific energy waves in the surrounding atmosphere while the oblations are offered with specific chants³. The effects of *Agnihotra* growth of rice seedling showed significant growth⁴. It was seen that *yajña* promoted growth of seedling. A study on the effect of *Agnihotra* on the bioenergetic systems of individual microorganisms and another study on antiseptic and antibiotic effects of the smoke of *yajña* and *Agnihotra* ash were also found to purify and cleanse the water, making it fit for drinking^{5,6}.

A paper on scientific observations on the paranormal powers summarizes the power to bend the metal objects by mind⁷. REG experiment confirmed the possibility that each individual has the degree of

psychokinesis⁸. Research done in the area also showed some significance⁹. Another research conducted to study the effect of *Gayatri mantra* on REG also showed some significance¹⁰. *Yajña* appears to be a promising scientific, cost effective, ecofriendly method to counter the everincreasing deadly pollution of the environment and purify and enrich the environment with healthy ingredients. Present study was aimed at examining the claims of *Apthoryama yajña* by modern scientific research. Four parts to this research included; attitudinal survey, measuring consciousness fields using REG, effect of *Yajña* on the counts of air borne bacteria and analysis of ash for any antibacterial activity and bacterial counts.

Methodology

The *yajña* was performed in a village Mulankunnathukavu of Thrissur district, Kerala. About 700 people participating in the *Apthoryama Yajnas* in Trichur were taken for study. Both male and female came for attending the *Yajñas*, between the age 15 and 70 yrs were interviewed. The respondents filled one time questionnaire at the time of *Apthoryama Yajñas*. Then questionnaire consisted of 3 questions as to bring out the attitude towards this kind of spiritual activity. All the questions were of

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multiple choices and the last question was multiple choices as well as open ended too.

Assessments were done by using Statistical Package for Social Sciences (SPSS) version 10 package. Various percentages were calculated for ascertaining the portion of population opting for various choices. Pie charts were drawn for the various portions. *Yajña* was conducted in a natural setting at Mulankunnathukavu, Thrissur district, Kerala. Experiments were conducted in the premises of the ritual ground for 11 days during specific events. This involved conducting REG experiments before, during and after a specific event, every day for 11 days. REG (Random Event Generator) is a device that is connected to a computer to generate random numbers, which are digitized for obtaining a plot on the computer. The mean and standard deviation for each episode is 3-78 trails.

The question as to whether the will or intent or the very presence of a person can influence the random number generation process of REG is being tackled in this technique⁷. Similarly, the field REG trails have shown that major events evolving emotional responses among large number of persons can influence the same⁹. If the curve (Fig. 1) goes on fluctuating within the parabola, this is an indication that the changes are all non significance ($P > 0.05$). If the will or intent or the presence has a distinct capacity of psychokinesis, the curve would move beyond the parabola. It measures the extent to which our state of consciousness can influence the REG and hence it measures our psychokinetic power. Whether the subjects can influence REG and bring a change in random number generation? It depends on the persons trying to influence the REG. If the mean value is < 101.00 , then it is non-significant; that means the subjects or the field of consciousness have no significant influence on REG. When the mean value is > 101.00 , the subjects have highly significant influence on REG indicating a capacity of psychokinesis.

Intent is a conscious application of our will to influence the REG. Three types of intents are used in REG studies: High, Low and Neutral. High: to move up the curve in positive direction to maximize the value, i.e. to move the curve above the parabola; low: to move down the curve in negative direction, i.e. to move the curve below the parabola curve; neutral: to keep the curve along the central line $P < 0.05$.

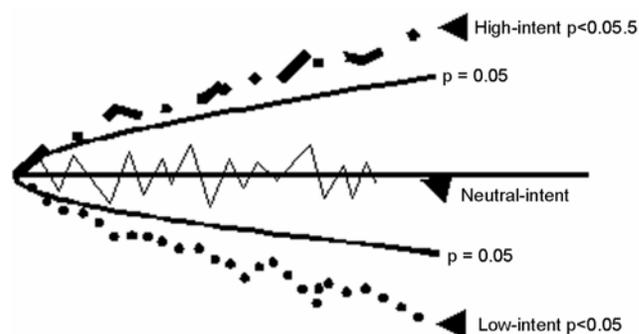


Fig. 1—REG recording showing high, low and neutral intent

There have been studies in which the subjects did not have any intent to influence the REG⁸. This would study the effect of the very presence of the subjects doing an activity on the REG (Fig. 2). It is well known that some people by their very presence can bring calming effect on others and vice versa. The study was attempted to see whether GM could induce a consciousness field which can influence the REGF. The data was taken underneath a shelter of asbestos sheets for protection from the sun. Data was taken before during and at the end of any event of performance of the rituals in the *yajña*.

Data extraction and analysis

Attitudinal survey

Question 1—What is the main reason for your attending *yajña*?

Through this question it was found that most of the people coming to *yajña* were coming out of the spiritual reasons than for curiosity.

Question 2—Are the spiritual practices important for your life?

With this it was found that people were giving much importance to the spiritual activity like *yajña*.

Question 3—If the spiritual activity is important, whether they have changed any of the following?

Results

Out of 639 people, who were given the questionnaire 287(44.9%) was found to be coming for the spiritual reasons and 311 (48.7%) came for spiritual reason (Table 1). 314 (49.1%) people considered the spiritual practices to very important for their life, for 297 (46.5%) spiritual practice were quite important and for 28 (4.4%) people spiritual practices were not all important (Table 2). 204 (32.6%) people opined that their personal life has changed, 227

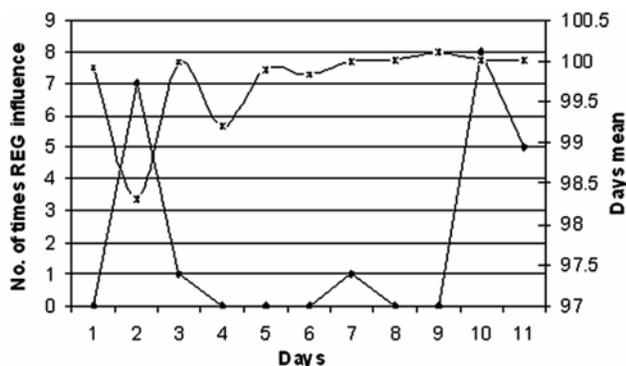


Fig. 2—Number of times REG influenced

Table1—Frequency data on reasons people attendance

Options	Frequency	Percentage (%)
Curiosity	287	44.9
Spiritual reason	311	48.7
Others	41	6.4

Table2—Frequency data of rating of spiritual practices

Options	Frequency	Percentage (%)
Very Important	314	49.1
Quite important	297	46.5
Not important	28	4.4

Table 3—Frequency data of how people are affected by spiritual practices

Options	Code	Frequency	Percentage
Personal life	1	204	32.6
Job	2	47	7.4
Interaction with people	3	227	35.5
Health	4	74	11.6
All the above	5	39	6.3
Personal life, job & interaction with people	6	11	1.7
Personal life, job	7	33	5.2

(35.5%) people mentioned that their interaction with people has changed; while for 47 (7.4%) people, it affected their job (Table 3). Only on the 2nd, 3rd, 7th, 10th and 11th days, there was significant changes ($P < 0.05$). There were significant trends of change in the REG values (Table 4). This change can be attributed to the various *Vedic* chanting and spiritual activity. Thus, during a spiritual gathering i.e., while performing a *Vedic* ritual *Āpthoryāma yajña*, there was change in the REG values (Tables 5, 6).

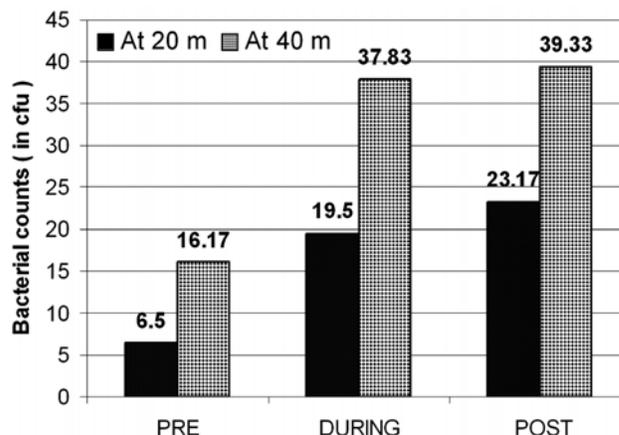


Fig. 3—Bacterial counts

Ash analysis

A study of ash filtrate of *yajña* was done using standard stain for bacterial growth and antibacterial activity. For the experiment 20 gm of ash collected from the Northeast corner of the main *yajña kunda* at 3.30 pm and ash was kept inside the sterilized zip lock bag. For preparation of filtrate, 10 gm ash was weighed in physical balance and was mixed with 50 ml distilled water to make a solution. After 12 hrs the filtrate was taken and residue was separated for the analysis of bacterial growth and for antibacterial activity. One ml of the filtrate was plated into plate of Blood Agar and Muller Hinton Agar for observing bacterial counts. These 2 Agars are the most commonly used in scientific experiments, as they possess all nutrients, which permit growth of all types bacteria. After 48 hrs no bacterial growth was observed in both the culture plates.

Varying concentration (5 mL, 10 mL and 20 mL) of the filtrate were adsorbed on to sterile filter paper discs and these discs were placed on a Muller Hinton Agar plate with a standard ATCC strain of *E. coli* lawn cultured on it. After 48 hrs incubation at 37°C, no zone of inhibition was observed around the discs. To increase the amount of the filtrate used in testing for the antibacterial activity, a Muller Hinton Agar plate with lawn culture of ATCC strain of *E. coli* was used. Using a sterile punch, hole of 4 mm diameter was punched on the agar surface. Up to 50 mL of filtrate was pipetted into all these wells. After incubation for 48 hrs at 37°C, no zones of inhibition were seen around the wells. Thus, the ash filtrate tested negative for bacteria and negative for antibacterial activity against a standard stain.

Table 4—Showing number of trails, maximum and minimum REG readings, mean and standard deviation of the reading with *P* values of independent pair t test with base line of day one and comparing with other ten days of REG readings

Days	No of trials	Minimum values	Maximum values	Mean ± SD & <i>P</i> values*
1	24	99.48	100.26	99.92 ± 0.207
2	58	97.31	101.84	100.07 ± 0.76 <i>P</i> = 0.328
3	33	98.51	100.69	99.98 ± 0.40 <i>P</i> = 0.511
4	9	99.84	100.39	100.01 ± 0.20 <i>P</i> = 0.230
5	15	99.61	100.14	99.89 ± 0.22 <i>P</i> = 0.689
6	3	99.78	99.96	99.83 ± 0.11 <i>P</i> = 0.505
7	22	99.42	100.4	99.99 ± 0.66 <i>P</i> = 0.623
8	9	99.84	100.42	100.01 ± 0.08 <i>P</i> = 0.225
9	14	99.77	100.29	100.11 ± 0.165 <i>P</i> = 0.005**
10	78	98.96	101.36	100.02 ± 0.165 <i>P</i> = 0.444
11	38	98.95	101.41	100 ± 0.64 <i>P</i> = 0.478

Table 5—Showing number of trials influencing and REG (values greater than 101 or less than 99)

Days	No of trials	No of trials of REG values >101	No of trials of REG values <99	No of trials of REG <99 or >101
1	24	0	0	0
2	58	5	2	7
3	33	0	1	1
4	9	0	0	0
5	15	0	0	0
6	3	0	0	0
7	22	0	1	1
8	9	0	0	0
9	14	0	0	0
10	78	4	4	8
11	38	3	2	5

Discussion

The reasons for people attending *yajia* were spiritual reasons and their life was very much affected. People were concerned about the spiritual activity like *yajia* and it does commensurate with their life style. Spiritual activity is important in the life of people and this kind of spiritual gathering affect the life style of the people. There are efforts towards the revival of the age-old traditions, which bring countrymen in a platform and bring harmony and peace. During the *Vedic* ritual *Āpthoryāma yajia*, the

Table 6—Days on which REG is influenced and Chi-Square values

Days	2	3	7	10	11
Mean ± SD	100.07 ± 0.76	99.98 ± 0.40	99.99 ± 0.66	100.02 ± 0.165	100 ± 0.64
Chi-test Reg value <99	0.000	0.000	0.000	0.000	0.000
Reg value >101	0.000	NS	NS	0.000	0.000
Reg value <99 or >101	0.000	0.000	0.000	0.000	0.000

NS—Non significant
Only the 2nd, 3rd, 7th, 10th and 11th days there were significant changes in REG

Table 7—Average bacterial counts at 20 m and 40 m for pre, during & post

Average bacterial count	Pre	During	Post
At 20 m	6.50+	19.50+	23.17+
At 40 m	16.17	37.83	39.33

+ *P* < 0.05 comparison 20 m vs 40 m

collective consciousness, chanting of mantras and people gathered sufficient strength to make the random sequence non-random on the day. *Yajia* did bring about an enhancement in the power of psychokinesis in a session. The results indicate a possibility of enhancement of the power of influencing the REG in *yajia*.

In the *yajia* an experiment to measure the air borne bacterial count before on 10th April, 17th April during and 20th April after, the *yajia* was done (Fig. 3). To capture the air borne bacteria nutrient agar was used. From the centre of the *yajia* place circles were marked at distance of 20 m and 40 m, the plate was carried around these by keeping it at a height of 1m above the ground to avoid the dust settling on the plates. Six experimental plates were opened for durations of about 4 min to allow the bacteria to settle down. After 4 minutes plates were sealed and sent back again for analysis. Bacterial count was taken on 10th April, 17th April and 20th April. The results showed at both the distances, there was increase in counts of air borne bacteria after the *yajia* (Table 7). Bacterial counts at 40 m distance were more than the bacterial counts at 20 m in both the cases, i.e. during and after the *yajia*. In the experiment, speciation (identification of type) of bacteria was not attempted. Whether the increase in bacterial count can be ascribed to *yajia* at a shorter distance compared to the bacterial count at larger distance is debatable.

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