Science and sastras have ‘search for truth’ as their primary purpose. While the purpose is same, the methodology is different. Science by and large draws the inferences and conclusions from controlled experiments which are verifiable, objective and falsifiable. Sastras are largely based on experience of people in their interactions with animate and inanimate world and more profoundly by revelations of direct truth by seers (Rsis). These findings are subjective in a scientific sense but are upheld as correct. Another basic difference between science and sastras is the former is considered as value free. The focus of sastras is on values considered essential for a sane, ethical coexistence of all components of society. Some values are held as eternal while some others may change from time to time and specific to subcultures. With these basic differences in mind we proceed with the objective of the research on Nyasa.

The rationale for undertaking a scientific study of benefits of nyasa practice stems from two angles. First, it is for people to understand and realize the beneficial aspect in modern day living of stresses and strains. Scientific evidence will be more convincing to modern generation than simple faith or belief. Second is to advance the borders of science in understanding nature and probably lead to paradigm shifts.

4.4 HYPOTHESES

1. Practice of nyasa before Gayatri mantrajapa does not lead to reduction in ‘Integral Entropy’ of human subjects
2 Practice of nyasa before Gayatri mantrajapa does not lead to increase in ‘Integral Area’ of human subjects
3. Practice of nyasa before Gayatri mantrajapa does not lead to increase of ‘Spatial fractality’ of human subject

5.0 METHODS

5.1 PARTICIPANTS

5.1.1 Sample size

Since this study is the first of its kind, no guidance or benchmark is available to decide about the sample size. Since nyasa is a procedure coupled to mantrajapa, the investigator decided to select participants from a traditional vedic institution where the students would be practicing mantrajapa daily. Veda Vijnana Gurukulam located in Channenahalli, Bengaluru was chosen. Out of sixty students in the institution in different stages of traditional learning, thirty students were selected as sample.

5.1.2 Selection and source of participants

As stated above, the source of participants is a traditional vedic institution located near SVYASA Yoga University, Bengaluru. For practical considerations half of the total population of students was selected for this study.

5.1.3 Inclusion criteria

- Males in age group 10-16
- Willingness to volunteer as subject, learn the nyasa procedure and practise
- Should be in good health

Should be practicing Gayatri mantrajapa regularly for a minimum of one year

5.1.4 Exclusion criteria

- On prescription drugs for health problem
- Lacking initiative to learn
- Females

5.1.5 Ethical considerations

An ehical committee was constituted to certlfy the design, methodology and experimental procedure and to ensure the implications of the study were explained to the participants and informed consent of each participant was obtained.

5.2 DESIGN OF THE STUDY

5.2.1 Parameters for measurement and device

Generally the parameters for measurement will be chosen first for any study and then a suitable measuring device selected. However in this study, the process was reversed for two reasons. There is no prior scientific study on the subject. Among a plethora of parameters, it was a tough task to hazard a guess. The introduction of Electro Photonic Imaging (EPI) in the medical diagnostic research scenario gave the investigators an opportunity to apply in this study. The choice of the parameters followed from the total kit of 13 parameters the device is capable of measuring.

5.2.2 Electrophotonic Imaging [EPI] - Application in current research

The device known as Electro Photonic Imaging [EPI] – also known as Gas Discharge Visualization– is used for the investigations reported here. This was developed by Dr. Korotkov (30). The instrument consists of a high voltage, high frequency generator whose field is applied to the finger tips of subjects. The field draws out electrons and photons from the body through the finger tips. Since the electric field is applied through a glass plate, the current through the finger is in the low microamperes range and no discomfort is felt by the subject. Thus, the measurement is entirely non-invasive and safe. Since the finger tips of all fingers represent organs according to acupuncture theory, subtle energy flow of chi or prana in the body is monitored through this method. For current research on the subtle effect of nyasa, EPI is thought to meet the requirement very well.

5.2.3 Instrument details and parameters

EPI consists of an insulating glass plate on which the fingers are placed one at a time. A CCD camera underneath the glass plate captures the pictures of corona discharge from the fingers when the electrons drawn out create a discharge due to the high voltage (Figures 2&3). The subject keeps the ten fingers one after the other on the sensor glass plate. The fingers should be dry. In-built software computes 13 parameters for the ten organs/systems corresponding to the ten fingers and produce plots called EPI-grams. If for any reason any diagram is incomplete or wrongly drawn, it shows up and instantaneous re-recording is possible. Though the instrument computes 13 parameters, Dr. Korotkov recommends focus on three parameters considered most important and adequate for normal study purpose. These are integral entropy, integral area and spatial fractality. These are described below.

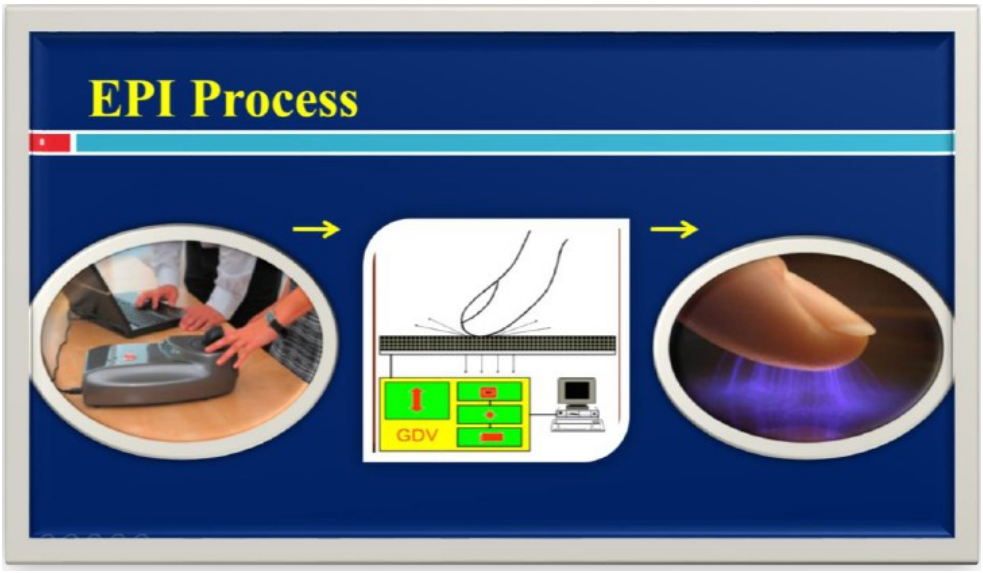

FIGURE 2 EPI INSTRUMENT AND PROCESS

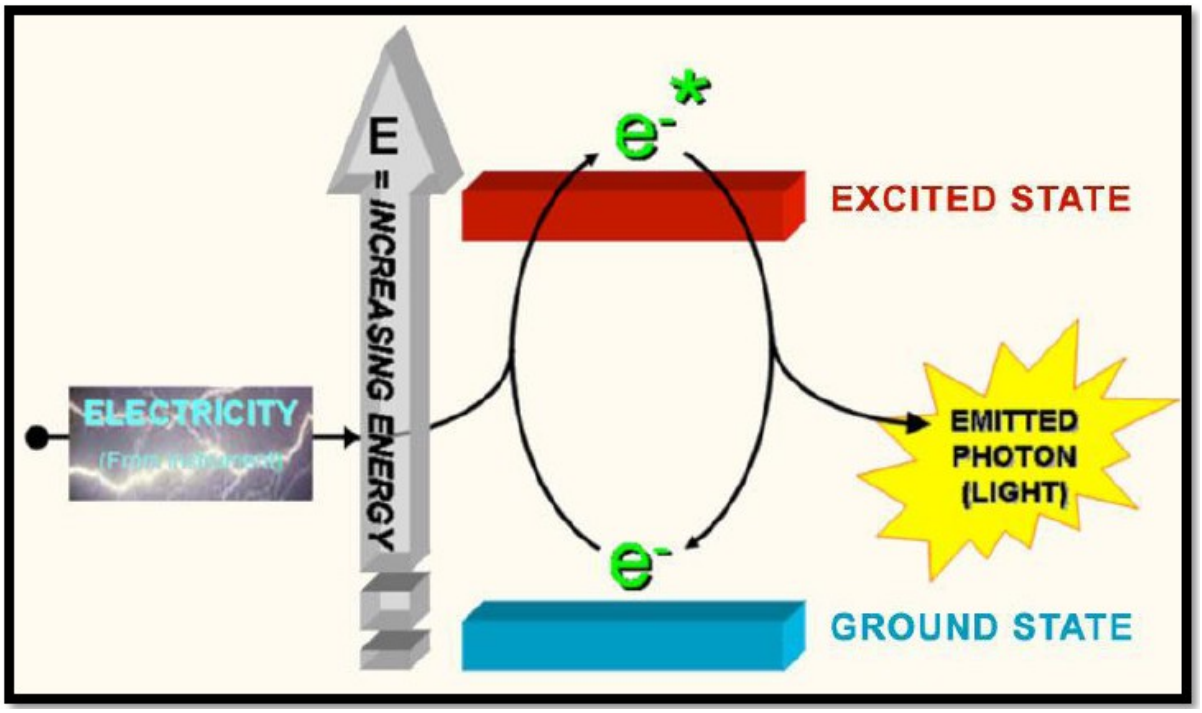

FIGURE 3 EXCITATION OF PHOTONS AND ELECTRONS IN EPI

5.2.4 The utility of EPI in current research

The instrument is found suited to measure the effect of subtle phenomena. The measurements are quick and with training, anyone can operate the instrument. The software prepares and projects the EPI-grams in a short time and the data can be printed in the form of tables, graphs and charts. Wherever the setting for a measurement is not proper, immediate graphic representation is available to rerecord immediately.

5.2.5 Experimental design

EPI instrument was used to measure parameters of subjects performing nyasa followed by Gayatri mantra japa. The control group consisted of subjects practicing relaxation before Gayatri mantra japa. The duration of nyasa and relaxation was kept to one minute. Both control and experimental groups recited Gayatri 20 times. Self as control method and cross over design was adopted. The approval of the Ethics Committee of the University was obtained before start of the study. Confidentiality of the subjects was maintained and withdrawal from the study at any time was explained to all.

GROUP A

MEASUREMENT 1	**MEASUREMENT 2**	**MEASUREMENT 3**
Base Line	After relaxation for	After Nyasa and

	one minute and 20 Gayatri	20 Gayatri
GROUP B		
Base Line	After Nyasa and 20 Gayatri	After relaxation for one minute and 20 Gayatri

The subjects are students of a gurukulam. They are students of first three years of sastra studies, in the age group 16-20, with regular daily practice of Gayatri for periods ranging from one to three years. They were all initiated into nyasa for Gayatri mantra by an acharya of the gurukulam. The subjects practiced nyasa for two days before measurements were made. All subjects are of good health and not taking any drugs for any health problems. They are all from similar socioeconomic background and form a homogenous group.

5.2.6 Parameters

Three EPI parameters were selected for analysis; they are integral entropy, spatial fractality and integral area.

5.2.7 Type of design

Self as control with cross-over from control to experimental has been selected as design. This is shown in Figure 4. **FIGURE 4 SELF AS CONTROL WITH CROSS OVER DESIGN**
Legend: N/G: Nyasa followed by Gayatrijapa; R/G: Relaxation followed by Gayatrijapa; (1), (2) and (3) indicates measurement epoch.

5.2.8 Sample size

This research is the first of its kind. No guidance for sample size is available. Therefore it was decided to take all available student population in the gurukulam as sample. Thus the study was made on 30 subjects. The separation between control and experimental groups was randomized. Every alternate subject who came into the laboratory for measurement was assigned to control and experimental. Though the measurements were taken for all thirty subjects, the data is available for less number of subjects due to noisy data, improper finger placement and drop out of data around some fingers and hence these could not be included in the study.

Data on integral entropy and integral area	29 subjects (15 control and 14 experimental)
Data on spatial fractality	22 subjects (10 control and 12 experimental)

5.2.9 Preparation of subjects for study

The purpose and procedure of measurements were explained in detail to all the subjects together. The subjects were given instruction on nyasa by their Acharya who is a familiar figure and he explained how to carry out nyasa - Karanyasa and Anganyasa. Informed consent was taken from each subject as per standard practice. The subjects practiced nyasa before reciting Gayatrimantra japa for two days.

Method of relaxation was standardized for one minute, about the same time taken for nyasa practice. Before actual measurement, each subject was briefed regarding the steps and the procedure. Any questions / doubts were clarified by an expert who assisted the researcher, in subject's own language in addition to English.

5.3 VARIABLES STUDIED

Anganyasa and Karanyasa were studied together.

5.4 INTERVENTIONS

While the focus is on the effect of nyasa on mantrajapa, two interventions, viz., nyasa followed by Gayatri mantrajapa and relaxation followed by Gayatri mantrajapa are the two interventions employed in this study. Cross over from one to the other intervention for the same subject is done to compare the effect.

5.5 DATA EXTRACTION

Data on three parameters, viz., Integral Entropy, Integraol Area and spatial fractality are extracted from EPI grams generated by the device.

5.6 DATA ANALYSIS

Data is analysed qualitatively and limited quantitative analysis is done with charts and graphs.

6.0 RESULTS

6.1 Integral Entropy