HEART RATE AND RESPIRATORY CHANGES ACCOMPANYING YOGIC CONDITIONS OF SINGLE THOUGHT AND THOUGHTLESS STATES

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It has been established (1, 2) that certain yogis can alter the patterns of their cardiovascular functions voluntarily. This report presents information obtained in a subject who practised yoga of thoughtless state for many years. The heart rate and respiratory changes associated with states of thought control have been recorded. Informed consent was obtained from the subject for the study. YS was a 76 year old healthy and active male, at the time of the study.

He was well experienced since childhood in practising asanas, pranayamas and thought control. He stated that he achieved considerable control over his mind, and could change from a "single thought" to "no thought" state at will. The EKG of standard limb lead II and respirogram via a mercury strain gauge wrapped around the chest, were recorded on a Beckman dynograph, during a test session, when on instruction he changed from a normal condition, to "single thought", "thought", and to "no thought" state, and vice versa, 4 times with approximately 5 min gap of relaxation in shavasan in between the 4 times.

Table 1
Heart rate and respiratory changes in altered states of thought.

State	Heart rate per minute	Respiratory rate per minute
Before	64.00	19.00
Shavasan	(n = 1)	(n = 1)
Shavasan	63.10 ± 0.20	17.50 ± 1.50
	(n = 4)	(n = 4)
Single	64.40 ± 0.97*	15.30 ± 2.50
Thought	(n = 4)	(n = 6)
No Thought	67.50 ± 1.30**	10.00 ± 0.80**
	(n = 4)	(n = 4)

*P<0.05, ** P<0.01 by comparision to the value during Shavasan (student t-test, two tailed),
n = number of values averaged.

There was a significant increase in heart rate during the ‘single thought’ state compared to the baseline (eyes closed sukhasan), and a further increase during the ‘no thought’ state (Table I).

In contrast, the changes in respiration were different for the 2 states: during ‘single thought’ state there was an increase in rate and regularity of respiration, Whereas during the ‘no thought’ state there was a significant reduction in the rate and (regularity (Fig.1). It is noteworthy that although the respiratory changes are in opposite directions, the heart rate changes are in the same direction (increase).

This is an example showing changes of heart rate and respiration accompanying a yogic subjective activity intended to alter the state of mind alone.

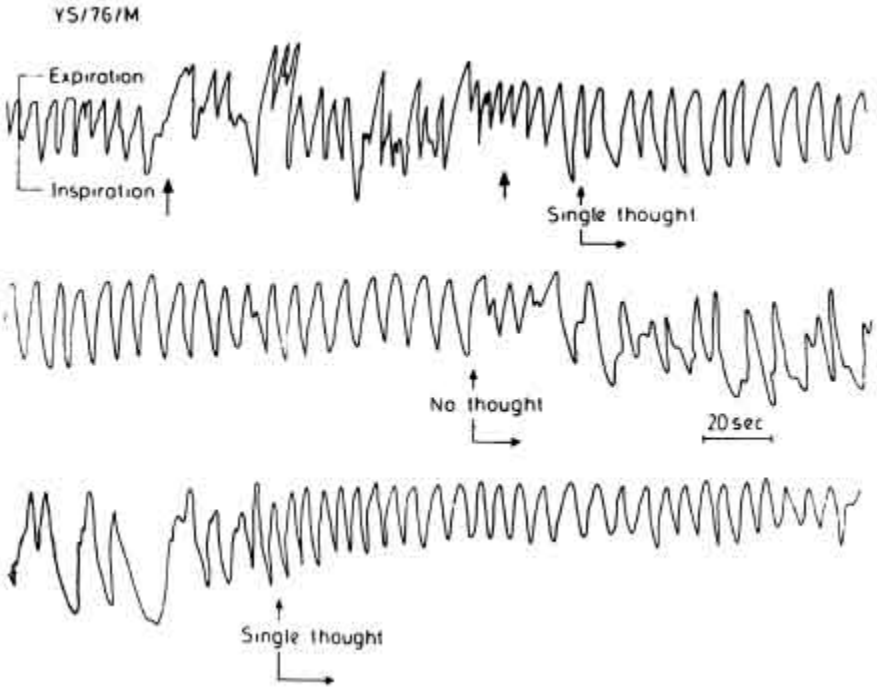

Figure 1. Respirogram continuous record. Between the first pair of arrows and subject was talking.

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