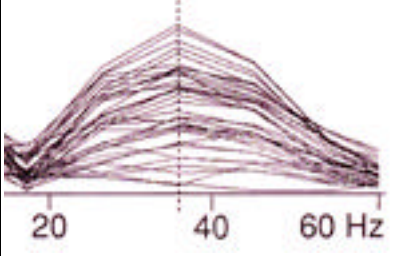
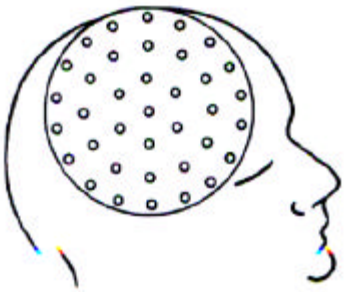
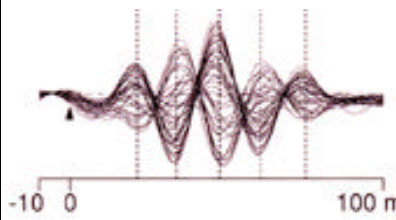


TABLE 1 Spontaneous and Evoked 40 Hz Activity—Summary of MEG Parameters

Topic and Illustrations	Spontaneous 40 Hz		Evoked 40 Hz	
	Parameters	Published Data (estimated)	Parameters	Published Data (estimated)
Power Spectrum 	1) The peak frequency 2) Amplitude 3) The range of peak frequency 4) Shape of peak	1) About 40-Hz "... a large peak of activity at 40 Hz over much of the cortex..."(Llinas et al.. 1998, p. 1846) 2) NA 3)NA 4) NA	1) The peak frequency 2) Amplitude 3) The range of peak frequency 4) Shape of peak	1) 40-Hz (Joliot et al., 1994) 2) NA 3) 17-60-Hz (Joliot et al., 1994) 4) see figure (taken from Joliot et al., 1994)
Coherence Spectrum 	1) The level of coherence 2) Spatial distribution	1) NA General estimation without calculation (Llinas & Ribary 1993, p. 2078); Only one example—Subj. 'ER': "high level of coherence throughout the hemisphere" (Llinas & Ribary, 1993, fig. 1). 2) Large region of cerebral cortex and subcortical structures (Llinas & Ribary, 1993) Global spontaneous oscillations in awake individual (Llinas et al.. 1998).	1) The level of coherence 2) Spatial distribution	1) Higher level of coherence 2) Global Coherence
Spindle shape 	1) Duration i) average ii) range 2) Amplitude i)maximum ii)average 3) Anterior/posterior phase difference i) average ii) range 4) Interspindal Interval (ISPDI) i) average ii) range	1) NA i) NA ii) W: 125 msec then 225 msec REM: 275 msec (Llinas & Ribary, 1993) 2) NA; WAMP < REMAMP estimated (Llinas & Ribary, 1993) 3) i) 12.5 msec (N= 5) (Llinas & Ribary, 1993) ii) 12- 13 msec 4) NA WISPDI > RISPDI estimated (Llinas & Ribary, 1993)	1) Latency 2) Duration i) average ii) range 3) Amplitude i)maximum ii)average 4) Anterior/posterior phase difference i) average ii) range	1) ISI<12 msec for two stimuli: the response latencies were identical to those for a single stimulus. ISI>12 msec: a second response latencies appeared and overlapped with that elicited by the 1st stimulus (Joliot et al., 1994) 2)Variable i) NA ii) Not obvious WStim1:~125 msec, (Llinas & Ribary, 1993, Fig. 2) WStim2: ~90 msec (Joliot et al., 1994, Fig. 1) 3) NA; Auditory stimuli increases W Amp (Tiitinen et al., 1993) 4)

Note: NA, not available; W, waking state; REM, dreaming state; Amp, amplitude.

TABLE 3 Physiological Correlates of States of Consciousness

Parameters	Waking State	NREM State	REM State	TC state
EEG	Fast, mixed frequencies with low-amplitude	Large amplitudes and very low frequency waves	A closer resemblance to the waking state.	Global high amplitude and coherence alpha with frontal and central theta and beta spindle bursts. Increasing frequency of peak power in EEG.
1)Delta : 0.5-4 Hz 2)Theta: 4-7.5 Hz 3) Alpha1: 8–10 Hz 4) Alpha2: 10–12 Hz 5) Beta: 13–20 Hz 6) Gamma: 20-60 Hz	Alpha 2 Beta Gamma	Stage 3: Delta (0.5-2 Hz) > 20-50 % Stage 4: Delta (<1 Hz) > 50 % with saw tooth waves Occasional alpha and theta	Theta Alpha 1 & 2 Beta Gamma	Alpha 1 &2 alternating with theta Gamma (20-40-Hz)
Eye movement (EOG)	Frequent	Slow or absent	Frequent	Variable
Muscle tone (EMG)	Elevated (high or moderate)	Decrease	Muscular atonia (active inhibition)	Greatly reduced
Autonomic measures 1) Breath rate 2) Heart rate 3) Skin conductance 4) Body temperature	1) Average 2) Average 3) Average 4) Average	1) Decreased breath rate 2) Decreased heart rate 3) Decreased skin conductance 4) Decreased temperature	1) More rapid, irregular, and shallow breathing 2) Increase heart rate 3) Skin conductance more stable than sleep 4)Increase temperature	1) Spontaneous respiratory suspension— “Apneustic” breathing 2) Decrease heart rate 3) Basal GSR increase; phasic GSR more stable; and skin conductance ‘orienting’ at the onset of breath changes 4) Decrease temperature

Note: NREM, sleep stage 3 & 4; EEG, electroencephalogram; EOG, electrooculogram; EMG, electromyogram; GSR, galvanic skin response.