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DOUGLAS FIR ECHO CHAMBER

Frank S. Crawford

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One afternoon last January I was walking with friends through a forest of magnificent Douglas Fir. We were hiking to Moss Mountain, near the lumber-mill town of Honeymoon Bay on the south shore of Lake Cowichan, on Vancouver Island, British Columbia. On an impulse I broke the forest silence with a loud whoop. To my astonishment I heard an answering echo that began immediately and reverberated for five or six seconds. It sounded as if I were in a huge empty ballroom or gymnasium. I yelled. The forest wailed back. I clapped. The forest responded with a long hissing sigh that died away gradually. Finally we were silent, the forest and I, listening, waiting for the other to speak. It was spooky.

The Douglas Fir were seeded about fifty years ago and were about eight inches in diameter. Their trunks rose for nearly a hundred feet before reaching foilage. The trees were randomly distributed and spaced about ten feet apart. There was practically no underbrush. The forest extended far enough so that when I looked in any horizontal direction my line of sight was intercepted by a tree trunk. The land was slightly rolling. There were no nearby hills or cliffs.

I made a slow descending siren-like wail to search for resonances; there were none. I clapped my hands sharply; the response was "white noise" decaying smoothly in intensity with no sharp echo. It sounded like the flat Fourier spectrum I hear when I hold down the damper pedal of my grand piano and clap my hands.

I leave it to the reader to explain how this echo chamber works. Why don't most forests make good echo chambers and why did this one? I suspect that a suitable deciduous forest in wintertime might work, but I have not tried it out.

I would like to thank Janet Lederman for inviting me to Lake Cowichan and Diann Dimitri for leading me to Moss Mountain.

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