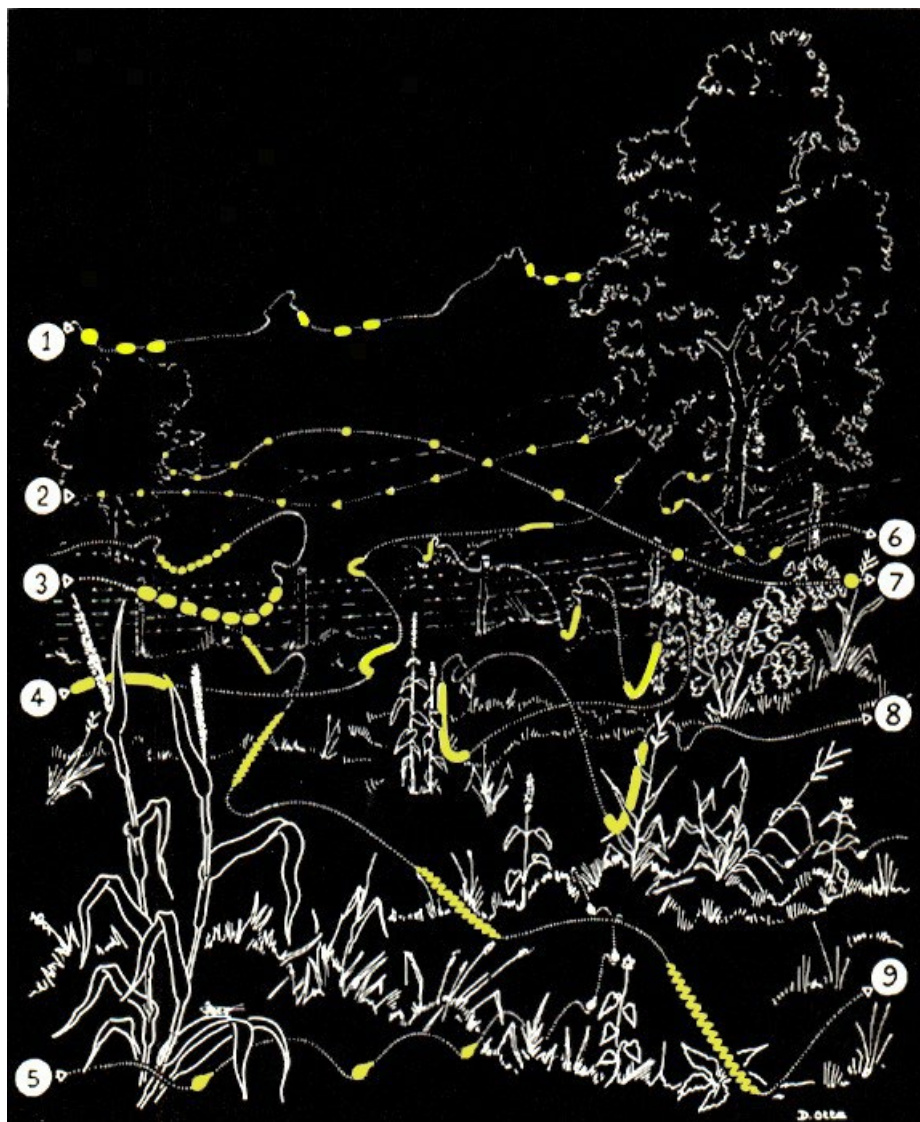


Thousands of firefly species all blink in different patterns, they are not only blinking in rhythms, but at the same time they perform specific choreographies of flight. The timing and pattern of these firefly flashes are unique for each species. In *Bioluminescence for Orchestra*, I have converted the data of firefly behaviour found in prof. James E. Lloyd's *Studies on the Flash Communication Systems of Photinus Fireflies* into an orchestra piece. Rhythmic patterns of the lights and the movements of the insects are the material for both melodic and rhythmic figures.

Bioluminescence is light produced by a chemical reaction within a living organism. Most bioluminescent organisms are found in the ocean. These bioluminescent marine species include fish, bacteria, and jellies. Some bioluminescent organisms, including fireflies and fungi, are found on land. Bioluminescence is used by living things to hunt prey, defend against predators, find mates, and execute other vital activities.

New studies indicate that fireflies are decreasing in number. Light pollution (human-made light) is interfering with the insects' courtship behaviour, since this happens in the dark. The artificial extension of daylight into night from human development is disrupting the dark/light cycles of fireflies and their behaviour.



“Studies on the Flash Communication System in Photinus Fireflies” by J.E. Lloyd, 1966, Miscellaneous Publications, Museum of Zoology, University of Michigan, No. 130.» Bilde bruk tetter tillatelse.