



**FIGURE 3-8** Spatial extension of the fluorescence emission from a solution containing fluorescent molecules under one- and two-photon excitation. In the case of TEP, the excitation phenomenon, small spots in the lower part of the cuvette, takes place only within a diffraction-limited volume. This volume can be roughly quantified using the resolution parameters of the system. In the case of conventional or one-photon excitation, the double-cone geometry (the upper bright area in the cuvette) is evident. The main implications of this behavior are an inherent confocal effect and consequent optical sectioning property, and photobleaching and phototoxicity confined to a sub-femtoliter volume. (Picture courtesy of John Girkin from Biorad web homepage.)