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Abstract for an Invited Paper  
for the DFD20 Meeting of  
the American Physical Society

**Stanley Corrsin Award Talk: Quanta and Their Superposition Rules in Fragmentation and Mixing**  
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A quantum is the elementary brick from which more elaborate ensembles are built. I will illustrate how this concept is useful at understanding the architecture of random scalar mixtures (where quanta are stretched sheets, possibly overlapping), and the spectrum of drop sizes in sprays (where aggregating blobs on liquid ligaments build-up the sizes distribution). This presentation will also be the opportunity to pay tribute to S. Corrsin's inspirations, notably to his 1961 American Scientist paper.