Fluid Motions: A Conversation between Art and Physics

From the swirling forms in Ansel Adams’s *Water and Foam* to the amorphous shapes in Brett Weston’s *Untitled (Clouds)* and the delicate ridges in Henry Troup’s *Wind, Water and Sand* series, the abstract patterns on view speak to the infinite possible arrangements found in nature. The idea for the installation *Fluid Motions* grew out of a conversation I had with graduate students from the Princeton Plasma Physics Laboratory. Although our different disciplines initially led us to varying interpretations of these works, we quickly found common ground in our admiration of the symmetries and movements we observed. Carefully captured and presented at a standstill for the viewer, the sand striations, liquids, cloud formations, and snowflakes are ephemeral patterns produced by different forces. Each work reveals one distinct configuration, while subtly calling to mind other possibilities that could have been. As the engineer and photographer Harold Edgerton noted of his *Milk Drop Coronet*, “there is no such thing as . . . a complete study of a phenomenon.”

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Waves are ubiquitous in nature, especially in fluids. The laws that govern their interactions are simple to state and yet lead to a variety of intricate and beautiful fluid motions. This complex behavior can range from the formation of striking patterns, such as the crown-shaped shock wave produced by dropping milk into cranberry juice, to the raging whirling of a crashing river. At times, turbulence and patterns can intermingle, with chaotic flows weaving themselves through larger-scale structures. Even small-scale turbulence can cause a cloud’s shape to evolve, while the stirring produced by this evolution feeds the turbulence with energy.

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Ansel Adams, American, 1902–1984
*Clouds, Tucson, Arizona*, 1944
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-94)

Ansel Adams, American, 1902–1984
*Clouds, Tucson, Arizona*, 1944
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-95)
Ansel Adams, American, 1902–1984
*Landscape near Phoenix, Arizona*, 1944
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-96)

Ansel Adams, American, 1902–1984
*Moon and Clouds*, 1959, printed 1970
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-207.4)

Brett Weston, American, 1911–1993
*Sand Dune Sculpture*, 1934
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-338)

Brett Weston, American, 1911–1993
*Dunes, Oceano, California*, 1937
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-339)

Brett Weston, American, 1911–1993
*From Portrero Hill, San Francisco, California*, 1939
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-343)

Ansel Adams, American, 1902–1984
*Published by Sierra Club, San Francisco*
*Water and Foam*, printed 1960
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-564.8)
Ansel Adams, American, 1902–1984
Published by Sierra Club, San Francisco
*Rushing Water, Merced River*, printed 1960
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-564.13)

Ansel Adams, American, 1902–1984
Published by Sierra Club, San Francisco
*Half Dome, Thunder Cloud*, printed 1960
Gelatin silver print
Gift of David H. McAlpin, Class of 1920 (x1971-564.16)

Brett Weston, American, 1911–1993
*Untitled (Clouds)*, 1968
Gelatin silver print
Museum purchase, David H. McAlpin, Class of 1920, Fund (x1974-84)

Alfred Stieglitz, American, 1864–1946
*Equivalent - 1924*, 1924
Gelatin silver print
Museum purchase, Fowler McCormick, Class of 1921, Fund (x1977-59)

Alfred Stieglitz, American, 1864–1946
*Equivalent - 1925*, 1925
Gelatin silver print
Museum purchase, Fowler McCormick, Class of 1921, Fund (x1977-60)

Alfred Stieglitz, American, 1864–1946
*Equivalent*, 1926
Gelatin silver print
Museum purchase, Fowler McCormick, Class of 1921, Fund (x1977-61)
Alfred Stieglitz, American, 1864–1946
*Equivalent*, 1926
Gelatin silver print
Museum purchase, Fowler McCormick, Class of 1921, Fund (x1977-62)

Alfred Stieglitz, American, 1864–1946
*Equivalent - 1927*, 1927
Gelatin silver print
Museum purchase, Fowler McCormick, Class of 1921, Fund (x1977-63)

Vija Celmins, American, born 1939
*Untitled (Waves)*, 1970
Two-color lithograph
Museum purchase, Laura P. Hall Memorial Fund (x1978-20)

Harold Eugene Edgerton, American, 1903–1990
*Milk Drop Coronet*, 1957, printed 1985
Dye transfer print
Gift of James P. Harrington, Class of 1947 (x1987-20.3)

Harold Eugene Edgerton, American, 1903–1990
*Cranberry Juice into Milk*, 1960, printed 1985
Dye transfer print
Gift of James P. Harrington, Class of 1947 (x1987-20.4)

Hiroshi Sugimoto, Japanese, born 1948
*Sea of Japan, Hokkaido I*, 1988
Gelatin silver print
Museum purchase, gift of Robert Gambee, Class of 1964, and the Geraldine R. Dodge Foundation (x1988-121)

Henry Troup, American, born 1924
*Wind, Water and Sand*, 1990
Gelatin silver print
Gift of the artist in memory of Samuel Angus Burns, Class of 1946 (1995-114.1)
Henry Troup, American, born 1924
*Wind, Water and Sand*, 1990
Gelatin silver print
Gift of the artist in memory of Samuel Angus Burns, Class of 1946 (1995-114.2)

Henry Troup, American, born 1924
*Wind, Water and Sand*, 1990
Gelatin silver print
Gift of the artist in memory of Samuel Angus Burns, Class of 1946 (1995-114.10)

Henry Troup, American, born 1924
*Wind, Water and Sand*, 1990
Gelatin silver print
Gift of the artist in memory of Samuel Angus Burns, Class of 1946 (1995-114.20)

Ansel Adams, American, 1902–1984
*Clouds at sunset with flat horizon*, ca. 1929–40
Gelatin silver print
Gift of David Hunter McAlpin Jr., Class of 1950 (2006-516)

Wilson A. Bentley, American, 1865–1931
*Untitled (snowflake)*, ca. 1903–1910
Gelatin silver printing out paper print
Gift of David B. Long in memory of Mary W. George (2015-6718)

Wilson A. Bentley, American, 1865–1931
*Untitled (snowflake)*, ca. 1903–10
Gelatin silver printing out paper print
Gift of David B. Long in memory of Mary W. George (2015-6719)