I hope to have shown in the first part of these considerations that the usual corpuscular interpretation of Schrödinger's ψ-function rests upon an unjustified overinterpretation of the observed facts, in contrast to the basic idea of quantum theory, which is the idea of complementarity. In the second part I tried to point out that, although the corpuscular interpretation is working in the case of small intensities, it represents only a very limited point of view in describing what is observed in reality.

OBITUARY

SARA GWENDOLEN ANDREWS

ON December 13, 1936, there passed away a woman with the rare gift of genius, Mrs. Ethan Allen Andrews, the wife of Professor E. A. Andrews, of Johns Hopkins. Mrs. Andrews, born Sara Gwendolen Foulke, died suddenly of a heart attack at her home in Baltimore. She had lived a retired life for years and many biologists in recalling her personally must go back to the memory of the beautiful, gracious young woman who made such a charming figure in the Woods Hole circle of the early 1890's.

Mrs. Andrews was born at Bala Farm in Pennsylvania in 1863. She studied at private schools and later for a time at Bryn Mawr, the University of Pennsylvania, Woods Hole and Roscoff on the French coast. She was married to Professor Andrews in 1894. Her earlier investigations dealt with infusoria and rotifers, but she became deeply interested in the structure and habits of protoplasm in general. And this is the theme of her classic memoir, "The Living Substance as Such: and as Organism," published as a special supplement of the *Journal of Morphology* in 1897, a memoir which carried her name and aroused admiration in biological circles throughout the world.

"The Living Substance" is not a paper with a definite contribution of fact or relationship between facts to be laid away after its essence has been incorporated in the handbooks. It is that and more. It has both depth and a grasp of many ideas. And one can read to advantage and with pleasure to-day this record of the multifarious experiences of a very thoughtful mind and a remarkable pair of eyes, aided by the best microscopic equipment of the time, in an exploration of the appearance and behavior of living protoplasm in protozoa, myxomycetes, leucocytes of invertebrates, sea-urchin and starfish embryos, fish eggs and other things.

The living substance, because of its tendency to take up water, exhibits itself to us as a Bütschli-structure, having the form of an emulsion, but it is only the continuous substance, separating and surrounding the droplets of included material, water and other things, that is alive. This is constantly active and its behavior is pictured as leading to changes in the general appearance of protoplasm. The alveoli, containing the discontinuous non-living stuffs, are increased or diminished in size or rearranged with the production of thin membranes, pellicles, within a protoplasmic mass or at its surface, constituting in the latter location a cell membrane. The thin lamellae between the alveoli may burst and disappear or their substance may "crawl or flow away," thinning and breaking in places and thickening elsewhere, or it may flow out at the surface of the mass or into the alveoli in the shape of delicate filose pseudopods forming in some cases new lamellae, one series of such changes in what Martin Heidenhain ("Plasma und Zelle," 1907) has called the architectural structure of cytoplasm culminating in cell division.

The histological section of this notable work is followed by a survey of the various phenomena of living nature as exhibited by individual organisms, all looked on as the outcome of the activities of substances, species-plasms or idioplasms, conceived of as isomorphic, everywhere differentiative and directive, and not optically analyzable. But while the potential features of a species are not localized within its idioplasm, the latter may transform itself into visible intra-cellular differentiations of many kinds for the discharge of particular functions. All these are designated "substance organs." Whether such ideas are tenable time and the future history of our present concept of genes as persistent and self-perpetuative entities will show. However that may be, the reader turning the pages of this memoir, now forty years old and which did not come into its own at once but encountered some inept criticism, will readily recognize, employing the words of von Baer, that we have here "observations and reflections" of genius.

H. V. WILSON

RECENT DEATHS

THE death at the age of sixty-one years is announced of Dr. H. B. Carey, professor of materia medica, botany and pharmacognosy and dean of the College of Pharmacy at the Medical Center, San Francisco.

DR. GEOFFREY M. JAMES, formerly professor of chemistry at the University of Pennsylvania, died on February 17 as the result of an automobile accident. He was forty-five years old.

DR. HENRY M. CHANCE, mining and consulting engineer of Philadelphia, from 1874 to 1884 assistant state geologist of the Pennsylvania Geological Survey, died on February 19. He was eighty-one years old.