

Heisenberg and the early days of quantum mechanics

Recollections of the days, 50 years ago, when a handful of students in the “entirely useless” field of physics heard of a strange new mechanics invented by Maurice de Broglie, Werner Heisenberg and Erwin Schrödinger.

Of course, there was afterwards a lot of talk among the physicists of Zurich, including even the students, about that mysterious “psi” of Schrödinger. In the summer of 1926, a fine little conference was held there and at the end everyone joined a boat trip to dinner in a restaurant on the lake. As a young *Privatdozent*, Erich Hückel worked at that time on what is now well known as the Debye–Hückel theory of strong electrolytes, and on the occasion he incited and helped us to compose some verses, which did not show too much respect for the great professors. As an example, I want to quote the one on Erwin Schrödinger in its original German:

*“Gar Manches rechnet Erwin schon
Mit seiner Wellenfunktion.
Nur wissen möcht’ man gerne wohl
Was man sich dabei vorstell’n soll.”*

In free translation:

Erwin with his psi can do
Calculations quite a few.
But one thing has not been seen:
Just what does psi really mean?

Well, the trouble was that Schrödinger did not know it himself. Max Born’s interpretation as probability amplitude came only later and, along with no less a company than Max Planck, Albert Einstein and de Broglie, he remained skeptical about it to the end of his life. Much

F. Bloch, Physics Today 29, 23 (1976)

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Erwin už vypočítává mnoho věcí
se svou vlnovou funkcí.
Jen jeden by chtěl vědět
Co si máš představit.

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