

# Should physicists work to the sound of silence?

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In this month's issue of *Physics World*, Felicity Mellor, a senior lecturer in science communication at Imperial College London, questions whether the requirement of the modern physicist to collaborate and communicate is preventing the intellectual progress brought about by silence and solitude.

Drawing on the approaches of Newton, Einstein, Cavendish and Dirac, Mellor highlights the recurring role that silence has played throughout the history of physics and asks if the "enforced interaction" that is now placed on modern-day scientists is allowing them enough time to think.

Sir Isaac Newton, in particular, was a proponent of isolated working, shutting himself away in his rooms, publishing reluctantly and restricting his audience to only those he thought capable of appreciating his work. Indeed, it was only after much persuasion that he eventually agreed to his *Principia* being published in full.

Physicists do best by striking a balance between silence and communication, with Mellor citing the example of Werner Heisenberg, who retreated to the tiny island of Heligoland to escape hay fever and the constant chatter of his colleague and mentor Niels Bohr. It was here that Heisenberg was able to reflect on discussions with Bohr and lay down the basis of his formulation of quantum mechanics.

While reminding us that individual genius is not the sole source of creativity in physics, Mellor questions the extent to which modern-day

scientists have control over their own level of [communication](#).

"Communication, yes, but on the physicist's own terms, in that manner that suits each individual best," she writes.

Peter Higgs, for example, recently claimed that he would not have been able to complete his Nobel-prize-winning work in the current research environment, stating that the peace and quiet he was granted in the 1960s is no longer possible.

In her article, Mellor also points to the rationale behind the current institutes of advanced studies, which aim to bring researchers together from a number of disciplines to promote collaborative research projects.

"These are laudable aims, but it is striking that the need for periods of withdrawal and solitude are no longer acknowledged as a means of facilitating intellectual advances," Mellor writes.

"History shows us that the most successful physicists have been able to strike a balance between coming forth and holding back, between public discussion and private contemplation. Yet reticence and silence seem to have no place in the modern research agenda."

Provided by Institute of Physics

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