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Changing goals of turbulence theory.

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Akiva Yaglom was a key member of the Russian school of turbulence that many thought was working towards a general theory of turbulence. But in fact the framework developed by Kolmogorov and Obukhov, within which Yaglom made his great contributions, was actually a set of ideas, methods, and remarkable experiments; its authors were never dogmatic about any final goals. As I experienced as a junior researcher at the great IUTAM congress in Moscow in 1972 Yaglom and his colleagues were always new approaches and welcoming all new ideas wherever they emerged. I shall be honoured to discuss how the results of the Moscow school are enabling the modern generation of turbulence researchers, with our more powerful computers and measurements of complete three dimensional flow fields, to examine the critical mechanisms in turbulence that they realized would contradict any total generality; in particular the ubiquitous tendency of turbulent flows to generate internal intermittency and extreme inhomogeneity.