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A year ago, when I began this blog, few of us can have had any idea of what the year had in store from the coronavirus, now known to us as covid-19. Over the years, I have sometimes reflected on the very fortunate lives of my generation. I was born at the beginning of World War 2 and it impinged very little on my life or consciousness. In contrast, my grandparents all were adults during WW1, and would have suffered from that; while my parents must have endured fear and anxiety during WW2, but did not pass on any of that to me or my siblings. Basically all that I can remember was the occasional comment about the wonderful things (e.g. unlimited cream or butter) that one could get before the war!

So perhaps the pandemic is our war? Well, for many people it must seem like it; but, for those of us who are retired and have not been touched personally by the fatal consequences of the virus, it really only amounts to a degree of anxiety and some disruption of our lives. In my own case, I have not been able to go to my university office since last February. But this lack of access to my papers and books has merely been an inconvenience. Although, I do have plans to write a couple of review articles in the coming year; and, if I don't have access to my office, only certain preliminaries will be possible.

In my first post, I referred to a paper of mine which I speculated might be my last as it had bounced from four different journals. I mentioned that I had let my guard down and made some sweeping statements without justifying them in detail. At the time I hadn't mastered the art or science of incorporating references in my blogs, so I can now remedy the omission and this paper can be found as reference [1] below.

So you can judge for yourself. Comments would be welcome. Just as a foretaste of something that I shall return to, is that in my view such a paper should have been unnecessary. The point it makes is that K41 scaling is observed for spectra and K62 scaling is not.

Incidentally, my speculation about publishing no more papers turned out to be overly pessimistic: see reference [2] below. There is rather a nice story attached to this, but I won't go into that at the moment. Suffice it to say that it quite encouraged me and I have to confess that I now have a number of papers at various stages of preparation. At worst their fate when submitted to journals should make interesting anecdotes under the generic title of 'peer review'.

To close on an upbeat note, I intend to integrate some of my blogs with the preparation of the two review articles that I have in mind. First, I intend to review the general topic of energy transfer and dissipation. In particular, the existing literature on the subject is unhelpful to the point of being quite bizarre. For instance, I recently read a discussion of the paper known as K41 (see reference [3] below) in which the author purports to quote this paper and in the process uses the word 'wavenumber', when in fact K41 derives the two-thirds law for the second-order structure function (i.e. $S_2(r) \sim r^{2/3}$), and the word wavenumber does not appear in the paper! Moreover, there is not a single exegesis (so far as I know) of K41 in the literature. Given its seminal nature, this is absolutely astonishing. It needs to be put right.

Secondly, I intend to write an article on statistical theories of turbulence, which will be much more accessible to those who are not theoretical physicists, and who balk at the word renormalization. In deciding which words not to use, I shall be guided by the acerbic remarks of the late Philip Saffman, which are to be found in his published lecture notes. Basically, I remain optimistic about this activity.

- [1] W. D. McComb and M. Q. May. The effect of Kolmogorov (1962) scaling on the universality of turbulence energy spectra. arXiv:1812.09174[physics.flu-dyn], 2018.
- [2] W. D. McComb. A modified Lin equation for the energy balance in isotropic turbulence. Theoretical & Applied Mechanics Letters, 10:377-381, 2020.
- [3] A. N. Kolmogorov. The local structure of turbulence in incompressible viscous fluid for very large Reynolds numbers. C. R. Acad. Sci. URSS, 30:301,1941.