Reply on CC3
Tom Barbara

Community comment on "Spin relaxation: under the sun, anything new?" by Bogdan A. Rodin and Daniel Abergel, Magn. Reson. Discuss., https://doi.org/10.5194/mr-2021-62-CC6, 2021

When I was a graduate student (1976-1981) it was not easy to get Redfield's IBM article, but the Advances publication was readily available, as most chemistry department libraries carried the entire series. Today one can find the IBM article on many internet sites and though I have looked at this in the recent past, I did not have a clear picture of its contents in my mind, so I had another look. These two efforts are nearly identical, even down the equation numbering! This was a surprise for me, since I knew the lore of the land, that "Redfield Theory" was semiclassical and needed the ad hoc correction, and that was the content of the IBM paper. Redfield acknowledges the influence of Bloch in the IBM paper just as with the Advances publication and also produces Eq.3.15 therein. There is some hint at "entanglement", but on the face of the published literature, Redfield produced his own equation with the correct equilibrium steady state independently. It is even more striking then, that Abragam did not cite Redfield or obtain a definitive result in his attempt to get to the same place as Bloch.

I have always enjoyed reading the history of science, even though at times I felt guilty and I guess, incompetent, that I was not spending that time making scientific history. Now in my mature statue, I can freely enjoy it. Especially with this topic.