

This Week's Citation Classic

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Abragam A. *The principles of nuclear magnetism*.
Oxford: Clarendon Press, 1961. 599 p.
[Collège de France, Gif sur Yvette, France]

This book is the first (and possibly the last) attempt to give in a single volume a comprehensive account of all the concepts, methods, theories, and results of the discipline called nuclear magnetism, that is, the collective behaviour of nuclear spins in bulk matter, as it was perceived at the time of writing. [The SCI[®] indicates that this book has been cited in over 6,100 publications since 1961.]

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"This book had been in the writing for about five years from 1955 to 1959. Its start coincided with a period when I was able to secure some material support and to attract some young research workers in order to start a magnetic resonance laboratory of my own, which is still functioning more than a quarter of a century later. If this book has been a success, and I would not be writing this commentary if it had not, it is in my opinion because of a symbiosis between a young and active laboratory and an author anxious to test his ideas and to get them across through lectures, seminars, and informal discussions, but also through ideas of experiments, suggested by the writing of the book and tested in the lab, before its completion. There is more than one instance of this in the book.

"What is a little puzzling, however, is that the flow of citations shows little sign of abating more than 20 years after publication. The subject did not stand still and the book could not possibly contain now all the useful information, even if it ever did, which I doubt. The

point is perhaps that although not all of nuclear magnetism is in there, whatever is is both important and not wrong. The secret for this in my view is the following: never put into a book (as opposed to a research paper) anything that you do not understand thoroughly.

"There is, I believe (I quote from memory) a statement by Freeman Dyson: 'Any book published at time t and up to date to time $(t-\tau)$ will be obsolete at time $(t+\tau)$.' This may be true if you gather uncritically in your book all the information available up to time $(t-\tau)$, but not if you filter it the way I have indicated. Much of what one does not understand turns out later to follow from faulty experimentation or faulty theory and becomes useless ballast in a book. The fact that there is very little of this in my book is for me a source of great satisfaction.

"I have recently written with Maurice Goldman a new book of similar size entitled *Nuclear Magnetism: Order and Disorder* which is not, repeat not, a second edition of *The Principles of Nuclear Magnetism*, for which it is not a substitute. It tackles new facts and new theories, mostly unknown when *The Principles of Nuclear Magnetism* was published.

"To conclude in a lighter vein, I feel that this book greatly contributed to spread my name among physicists, not unlike Sir Arthur Conan Doyle and his legendary hero Sherlock Holmes. I fear that it dwarfs (unfairly or not, it is not for me to say) whatever research I may have done before or after its publication. Some papers of mine which have very honourable reputations, and even sizeable citation scores, many years after their publication, disappear among column after column of citations to *The Principles of Nuclear Magnetism*. Since this book was published, various honours and awards have come my way. I like to think that they are due to my research work and so prefer not to cite them *à propos* of *The Principles of Nuclear Magnetism*."

1. Abragam A & Goldman M. *Nuclear magnetism: order and disorder*. Oxford: Oxford University Press, 1982. 600 p.