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Hall L D. Nuclear magnetic resonance. *Advan. Carbohyd. Chem.* **19**:51-93, 1964.
[Department of Chemistry, University of Ottawa, Ontario, Canada]

This review article provided one of the first overviews of the use of proton nuclear magnetic resonance spectroscopy to determine the structures and shapes of carbohydrate derivatives in solution. [The *SCI*® indicates that this paper has been cited in over 280 publications.]

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One traumatic Tuesday morning, I went to the Chemistry Library at Bristol University to start to write my first research paper, only to find that most of my results with Leslie Hough had just been "scooped" by a group from London University.[1] That evening, in black despair, I returned to the library and thumbed through a textbook on a topic that was totally new to me but that clearly held almost limitless potential for determining the structure and solution geometry of organic molecules. Thus inspired, I ignored the fact that few nuclear magnetic resonance (NMR) instruments were available in the UK (none at all in Bristol!) and decided NMR would be the basis for my PhD research.

By good fortune, E.W. Abel (in whose inorganic laboratory I was a demonstrator) took pity on me and arranged to obtain three NMR spectra from Imperial College (London). It took me a year to interpret them, since I had no one who could advise me. Thereafter, progress was rapid. Jack Beconsall at Imperial Chemical Industries provided 12 more spectra and these were used to persuade John Pople at the National Physical Laboratory to provide me with hands-on access to his NMR instrument. With the help of Ray Abraham and Keith McLauchlan, I soon determined the shape of many 5- and 6-membered sugar rings.

This experience convinced me both that NMR had a marvelous future and also that "interdisciplinary" research was exciting. It also resulted in my going to Frank Anet at Ottawa University for a postdoctoral fellowship, where I wrote this review article. Because there were so few papers in the literature, the "survey" part was rather short; to make the article sufficiently long, I decided to include all the insight that had led to my own results, plus all my ideas for the future. Doubtlessly, this was not the best way of protecting those ideas, but it had the merit of giving the article the forward look that kept it current for such a long time, besides making it a useful primer, as I discovered in 1972 on a lecture visit to Germany, when I found it was still required reading.

I feel very fortunate that my first research work was useful to others, since the challenge of doing work that is "useful" still influences my attitude towards research and has led to my holding a foundation chair in a clinical school without having any medical qualifications.

Having now been round the track several times more, I rely on my instincts when deciding whether or not to start research in a new area. The sole criterion is whether or not it "feels" like the first idea. If it does, I go ahead without hesitation.[2] [For another recent reference, see number 3 below.]

1. **Creighton A M & Owen L N.** Some carbohydrate episulphides. *J. Chem. Soc.* **1960**:1024-9.
2. **Hall L D & Sanders J K M.** Complete analysis of ^1H NMR spectra of complex natural products using a combination of one- and two-dimensional techniques. 1-dehydrotestosterone. *J. Amer. Chem. Soc.* **102**:5703-11, 1980. (Cited 195 times.)
3. **Davison B E.** Carbohydrate chemistry. NMR spectroscopy and conformational features. *Carbohyd. Chem.* **16**:224-39, 1985.

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