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MBU/ 383

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Mr. Alistair S. Johnson  
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Dear Mr. Johnson:

Thank you for your letter dated 11.2.1982 along with your paper (full). Your suggestion to send it to the Editor of the Horizon is welcome. You have not misunderstood the situation although there are a couple of technical errors in your paper.

Both Drs. Pattabiraman and Goutam Gupta were with me as Ph.D. students and have obtained Ph.D. degrees based on their work carried out on the conformational flexibility of DNA. Dr. Pattabiraman is currently working in the Computer Graphics Laboratory, San Francisco, with Professor Robert Langridge, about whom you had mentioned in your letter.

I agree with you that the structure of DNA should be a dynamic one in order that it should function in an efficient manner its varied roles. We have been stressing this for the last several years and had indicated that the flexibility inherent in the molecule is responsible for DNA to exhibit polymorphism and also to occur in either handedness (left/right).

You might have received my earlier letter and the reprints of some of our recent papers. As indicated in my letter I would appreciate if you could send me the Wang paper in American Laboratory 1981 Vol.13 (9) pp.86, 88-92, 94-97.

Although Wang is the first author of the paper in Nature on Z-DNA, the senior person of this laboratory from MIT is Professor Alex Rich, who is credited with the discovery of the Z-DNA. You may be interested to know that Alex Rich announced in the abstract of the American Crystallographic Association, 1979, that the hexa-nucleotide (CGCGCG) is a right handed Watson & Crick double helix. This he announced even before he solved the structure. Wang, who is a post-doctoral fellow with Alex Rich, has seen our earlier papers on both right and left handed double helical structures for DNA and tried to refine the crystal structure of the hexa nucleotide with left handed models. It turned out that the structure refined is a left handed Z-DNA.

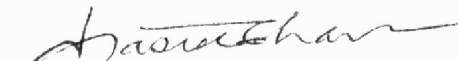
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When he announced this in the meeting every one was surprised that the title of his presentation indicated that the duplex is a right handed double helix whereas he actually indicated that the duplex is a left handed double helix. Also when Alex Rich was asked about it, he said that it was a typographical error(!!) That is how he became the discoverer of the left handed Z-DNA.

We had predicted, as published in our Current Science Paper, almost simultaneously, different Z-structures both right and left handed.

In case you are submitting the material to the Editor of Horizon, I shall be glad to let you know a few technical errors that are to be corrected in the paper.

Yours sincerely,

  
V. Sasisekharan