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Genome Structure and Evolution

Foreword

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A NATO Advanced Research Workshop on *Genome Organization and Evolution* took place on the island of Spetsai, Greece, between 15–19 September 1990. This Workshop, the third in a biennial series, followed two other Workshops on the same subject, one held in September 1986 on the island of Crete, the other in October 1988 on the island of Corsica. An issue of the *Journal of Molecular Evolution* was devoted to some of the papers presented at the first Workshop. For the Spetsai meeting, also, publication of presentations in a Journal with a regular review process seemed preferable to a publication of Workshop proceedings in book form.

Since the Spetsai Workshop has been commented on twice since it was held, by Paul Sharp (Trends in Ecology and Evolution 6:71–72, 1991) and by Emile Zuckerkandl (J Mol Evol 32:199–200, 1991), I shall add only brief remarks to underscore the utility of these Workshops, which deserve, indeed, the generous support that they have received.

These Workshops are eminently useful to the field of molecular evolution. This becomes particularly understandable when one thinks that progress in evolutionary biology (one of the cardinal areas of basic research in the biological sciences today) is made, when it is made, largely in uncharted territory. Direct confrontation of ideas becomes an absolute necessity in an area where new frontiers are emerging. Thus, contacts between investigators working in the field must not rely on published papers alone, but need to include direct personal exchange of views and information.

This series of Workshops has the additional value of bringing to the discussion the advantages of an interdisciplinary approach—calling not only upon molecular evolutionists, but also upon molecular geneticists and cytogeneticists. This allows new bridges to be established between these fields and to channel into the subject matter contributions from both methodology and interpretation derived from diverse vantage points.

The utility of this Workshop, indeed, is not limited just to the aforementioned fields. Technological approaches to genome research, such as the Human Genome Project—a brute force approach par excellence—should benefit from guidance in matters of strategies and priorities and from expertise in the analysis of results. Such guidance and expertise can only come from basic research, particularly from research in molecular genetics, molecular evolution and cytogenetics. This may not be fully appreciated as yet by those involved in mapping and sequencing, but certainly it will be in the not too distant future.

Finally, in a more general way, these Workshops have the value of demonstrating that it is not true that " . . . biology is nothing but detail upon detail, with no emergent universals or laws," as J. F. Balzan (Cell 62:11–12, 1991) mused in a pessimistic moment. I hope that the papers in this issue will convince the reader that such universals and laws do exist and that they are investigated and discussed in meetings like the NATO Workshop. For those who may not be convinced, let me issue an invitation to join us next year on another Mediterranean island (to be pinpointed).