

## INTRODUCTION

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The past 15 years have seen a revolution in the handling of chemical (and other scientific and technical) information. The motivation for this revolution has been the inexorable growth of science and of the reporting of the results of scientific endeavour in the form of journals, patents, books and reports. The instrument of the revolution has been the digital computer with its associated technologies and systems.

By the middle of the 1950's it had become clear to some that the tools available for accessing the scientific and technical literature, and especially the chemical literature, would not be adequate to their task for much longer. Equally and even more urgently the traditional methods for the creation of abstracts of and indexes to the scientific literature were in danger of collapse under the weight of the growth of the primary reports of that literature.

The coincidence of the appearance of the digital computer, with its extraordinary capacity for storing, manipulating and organising information, with these pressures on both the effective creation and use of the indexes to, and abstracts of, the primary scientific literature set the stage for a rapid and, to many, bewildering change in the range and nature of the methods available for access to the results of scientific research and development.

In common with other sciences and technologies, the services in chemistry which enabled researchers to make effective use of the total record of chemical research and development remained essentially stable throughout the first half of the 20th century. The situation now is very different. A very wide variety of chemical information services are available, some good, some bad, and many indifferent. The traditional forms of service - the printed abstracting and indexing services - co-exist with a host of unconventional services based on the use of computers. These unconventional services are increasing in number almost as fast as the literature of chemistry to which they seek to give access.

Nevertheless there are grounds for believing that the major research and development phase of the computer handling of chemical information is almost over and that a new period of relative stability in the form of chemical information services is not far off. The characteristics of this new environment are already evident. The purpose of this conference is to identify the services that are available today and to describe, albeit briefly, the range of manual and computer-based systems and of bibliographic and data information stores that exist and the ways in which they can be used. The spectrum of services and systems which will be described by the speakers who follow me are representative of the main elements of the chemical information systems that will be the basis of a new stability which should carry us through at least until the end of the 20th century. They are far better equipped than I to convince you that we now possess the capabilities that are needed to provide the chemist with effective means of accessing the increasing mass of chemical information that flows from, and supports, chemical research and development.