The Pharma Documentation Ring provides a forum for members to exchange experience and cooperate on projects of common interest, as well as serving as a platform for the information industry to gauge the views and attitudes of its industrial customers.

Overview of Activities of the PDR

by Y. Dubosc and A. Mullen

THE PHARMA DOCUMENTATION RING (PDR) is an international corporate-based organization that focuses on activities involving scientific information and documentation for the pharmaceutical industry.[1–5]

The PDR has several main objectives, such as the exchange of experience and views among members and the initiation of the development of new information services, as well as the enhancement of the performance of existing commercial information systems[5,6] for the mutual benefit of the R&D-based pharmaceutical industry.

A brief history

The PDR was founded in 1958 by five companies—Bayer, Ciba, Knoll, E. Merck and Thomae—, who decided to rationalize their efforts by jointly abstracting and coding the scientific literature and patents[7] on account of the rapid growth of published materials. This latter development is depicted in Figure 1.

The rapid growth in the amount of available information over the last few years has been aptly described by the term "information explosion." For example, in the 19th century it took 100 years for the total amount of information to double. Since approximately 1960, on the other hand, information has been doubling every 4–6 years.

The number of records in online and other databases has increased 100% every 4 years since 1983.[8] In addition, between 1987 and 1991, the number of online searches conducted via the most important U.S. host computers doubled to 40 million per year.[8]

To help tackle the volume of scientific literature in the biomedical area in a systematic way, the five PDR companies, besides generating and exchanging top-quality abstracts, also developed Ringcode,[9] which combines structural fragmentation codes and a system for biomedical concepts, initially designed for punched cards that were exchanged among the member companies. This system was in fact one of the first "mechanized" documentation tools.

Due to the efficiency of this approach, a number of other pharmaceutical companies joined the PDR, as can be appreciated from Figure 2, which traces the steady increase in growth of the organization from its inauguration in 1958.

However, as the dramatic expansion of the biomedical literature during the 1960s was not paralleled by the same increase in manpower of information departments, PDR companies

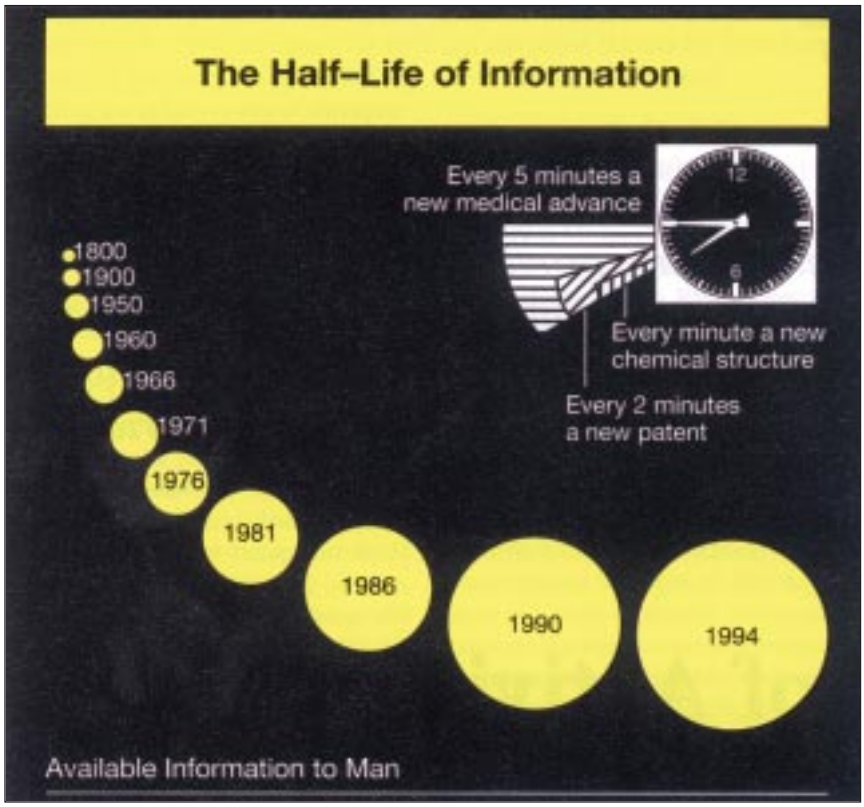

Fig. 1. Growth of information.

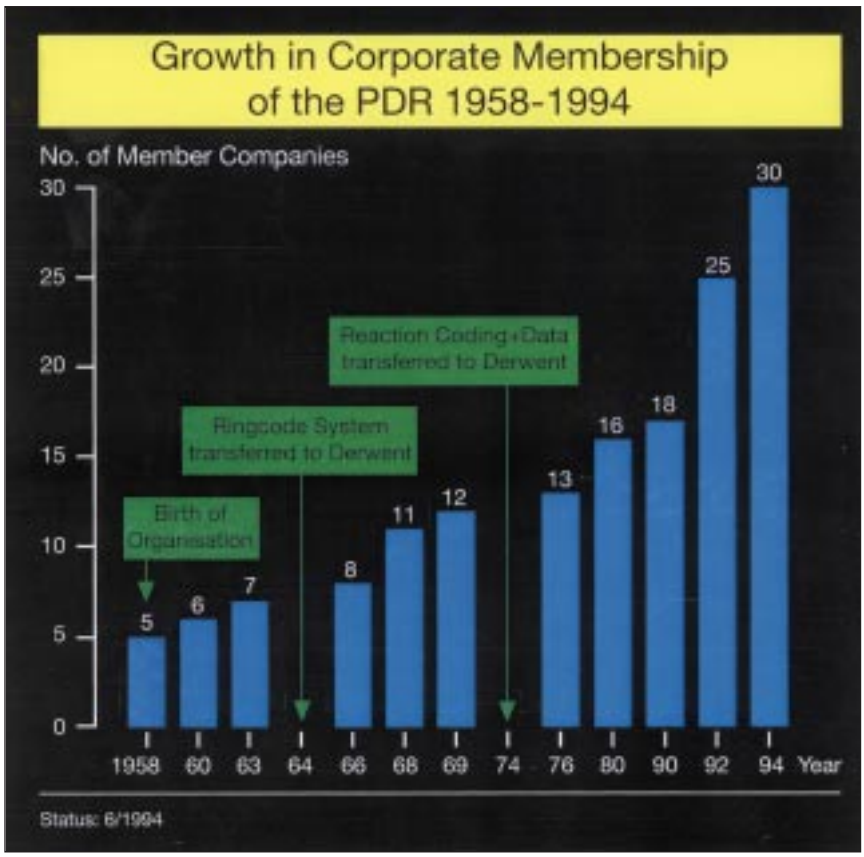

Fig. 2. Milestones of the PDR.

were prompted to look for a commercial organization able to take over their tasks. For this reason, in 1964 the scientific literature component of documentation activities was transferred to Derwent Publications, London, which had launched a punched card-based documentation system for pharmaceutical patents in 1963. The new commercial documentation service for biomedical literature was called Ringdoc (now known as Derwent Drug File) and combined PDR's Ringcode with the "Codeless Scanning System" of Hoffmann-La Roche/Sandoz.

PDR companies continued to process the coding of patents in the pharmaceutical and agricultural areas using Ringcode, because the quality of the alternative commercial coding systems was judged inadequate. For this reason, during the 1960s other pharmaceutical companies joined the PDR: Boehringer Mannheim, Diamant (now Roussel Uclaf), Duphar, Gruenenthal, Rhône-Poulenc, Roussel Uclaf, Schering and Troponwerke (now Bayer).

In 1968, the PDR companies expressed the need for better access to chemical reaction documentation. A reaction-coding system based on Ringcode was established[10,11] and it was initially decided to code Theilheimer's *Synthetic Methods of Organic Chemistry* series using this technique. Similar considerations to those involving the biomedical literature caused the system to be transferred to Derwent Publications in 1974, together with the reaction coding of Volumes 1–25 of Theilheimer. The new commercial service was called Chemical Reactions Documentation Service (CRDS).

During the 1970s, the PDR continued to grow smoothly with, for example BASF, Byk Gulden, Chemie Werk Homburg (now Asta Medica) and Wellcome joining. During these years, the PDR in fact continued to study[12] and process pharmaceutical and agricultural patents using its Ringcode and to evaluate ways for the computerized coding of Markush formulae.[13–15] However, this work was more and

more challenged, due to the increasing quality of the coding of patents by Derwent Publications and the advent of the online age in Europe, encompassing enhanced retrieval features, such as, for example, the combination of manual and punched codes in the Derwent patent file. In 1978, it was decided to discontinue the recoding of patents.

The progressive decrease in coding activities inside the PDR meant that the organization went through a reorientation phase. Energies were released for activities related to improving existing commercial information tools: the PDR's Medical–Biological Committee, in particular, met regularly during this period and helped catalyze and pioneer many improvements in the Derwent literature databases.

After the PDR relinquished its activities as a database producer and developer of indexing systems, during the 1980s a new focal point was found for the organization: that of exchanging experience and intensively testing commercial systems and databases of interest to the R&D-based pharmaceutical industry. As a result, there was a steady growth in membership of the PDR, which began to surge from 1990 onwards to the present 30 member companies.

In its new role, the PDR provides an international platform to discuss and propose improvements for databases in the pharmaceutical area. Recently, presentations were made and joint papers published on the following topics: drug information files on development compounds,[16] biomedical databases[17–19] and reaction files.[20]

Guidelines and aims

The PDR was a registered association in Germany from 1958 to 1984. As such, it was governed by statutes that defined objectives and activities. From 1984, although the status of being a registered association was dissolved to simplify administration, the core part of the original statutes continued to be considered valid. It was, however, recently decided to update and replace them with new "guidelines," as well as to redefine the aims, membership conditions, organization and activities of the PDR.

The aim of the PDR is to attain improved access and coverage and to achieve better distribution and optimum use of the chemical, biomedical, pharmaceutical, scientific and patent literature for the common benefit:

- by promoting the exchange of experience and ideas among members in non-confidential areas of work;
- by jointly studying and assessing existing commercial and non-commercial products and services for the purpose of improvement;
- by initiating and encouraging the development of new information services tailored to the needs of the pharmaceutical industry; and
- by providing a forum for the information industry operating in the pharmaceutical sector.

The association achieves its aims through its own efforts and by common work and meetings, as well as by closely cooperating with information suppliers.

Membership

PDR members represent scientific information and documentation departments of R&D-based pharmaceutical firms and chemical companies involved in medicinal chemistry.

Conditions of PDR membership

At this juncture, it would perhaps be opportune to briefly outline the conditions attached to membership in the PDR (Fig. 3). Members vote on any new application for membership.

Normally, a corporate group is represented by a single membership in the PDR, affiliated and subsidiary companies of a particular group being covered by this membership. Exceptions to this general rule have been made in the past when existing member companies became a part of a larger corporate group which, for example, subsequently became a PDR member.

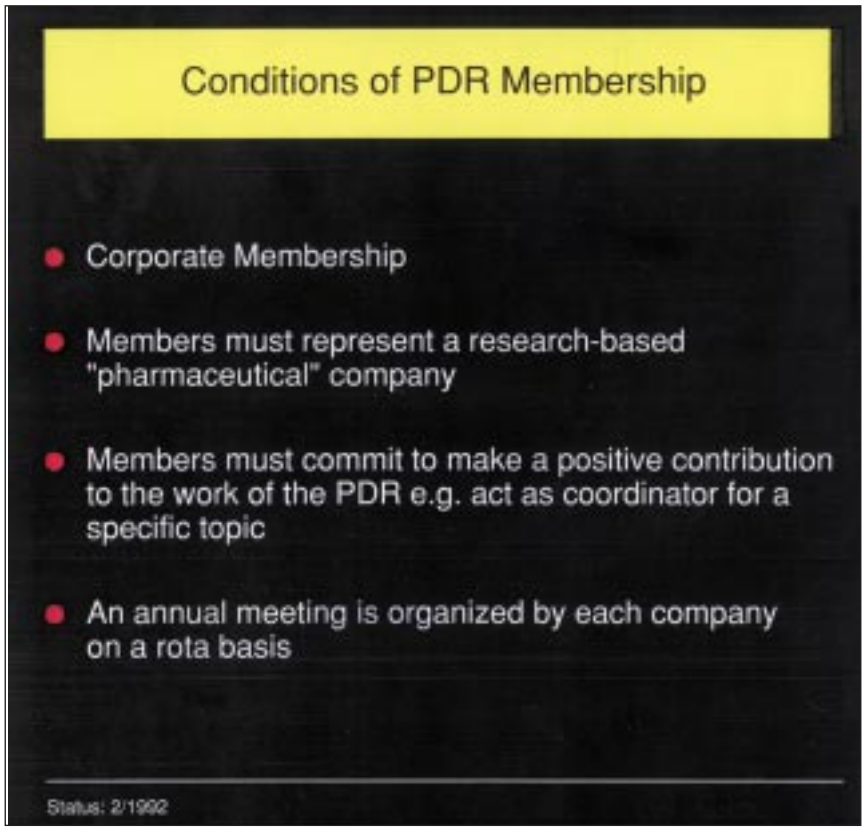

Fig. 3. PDR membership conditions.

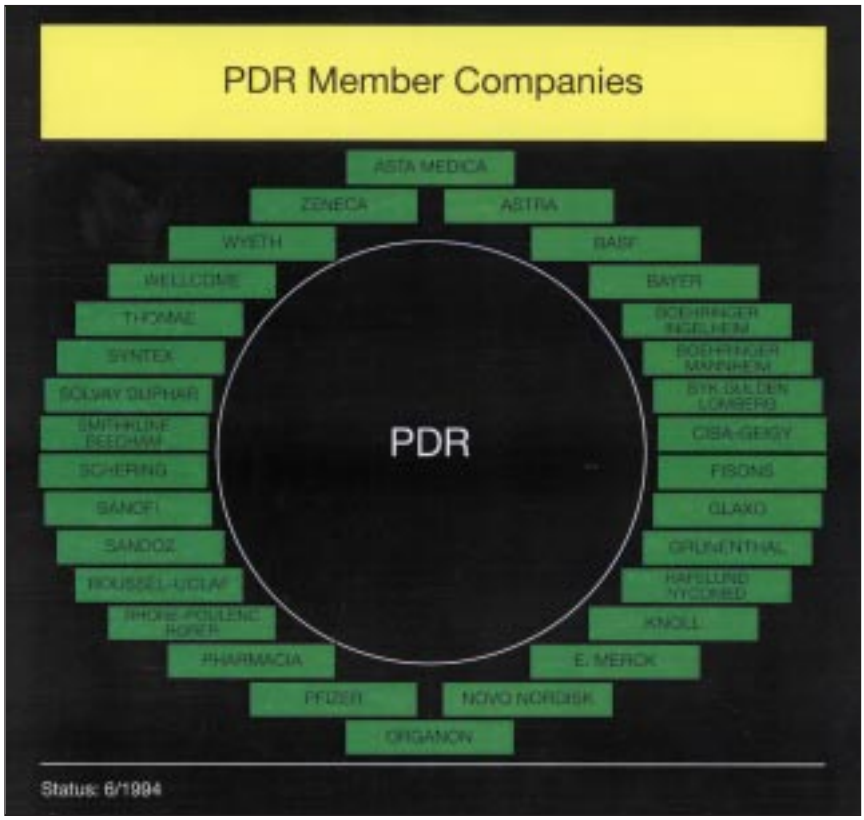

Fig. 4. Present corporate members of the PDR.

Fig. 5. Locations of PDR member companies.

Membership fees are not exacted. Members must, however, commit to make a positive contribution to the work of the PDR by actively participating in meetings and working groups.

Overview of current PDR members

The present 30 member companies of the PDR are depicted in Figure 4. PDR companies represent more than 50% of the top 30 pharmaceutical companies worldwide, based either on R&D expenditure or turnover. It is estimated that those R&D-intensive PDR companies invested on average 16% of their pharmaceutical turnover in R&D in 1992 (source: IPS, Wood-Mackenzie, 1993).

Another survey,[21] conducted by the Dutch ABN-AMRO Bank, showed that in 1991 some 18 of the top 20 European-based pharmaceutical companies by R&D expenditure were PDR members.

A recent study[22] based on the New Chemical Entities (NCEs) introduced by the leading 25 international pharmaceutical companies during the period 1961–1990 indicated that PDR member organizations had more than a 60% share of the 961 NCEs listed.

Thus, PDR members represent organizations that account for a major sector of the international pharmaceutical R&D community.

The R&D headquarters of European-based PDR companies as well as the European sites of major U.S. pharmaceutical PDR companies are spread over the following eight countries (in parentheses the number of members) (Fig. 5):

- Denmark (1);
- France (3);
- Germany (11);
- The Netherlands (2);
- Norway (1);
- Sweden (2);
- Switzerland (2); and
- United Kingdom (8).

Organization and present activities

The main organs of the association are the meeting of the members, the

PDR Executive Board and the PDR coordinators.

Meeting of PDR members

The meeting of members is responsible for:

- election and discharge of the members of the PDR Executive Board;
- resolutions over the admission of new members;
- setting up resolutions concerning: 1) topics for study and coordination, 2) products and services to be assessed, 3) information fields that need improved tools, 4) contacts for specific activities with database producers and/or information suppliers, and 5) contacts with other national or international information-related organizations;
- general distribution of tasks to the members, whereby the final details are settled by the PDR Executive Board; and
- setting up the list of topics of importance to the association and delegation of the responsibility for monitoring these topics to coordinators.

The major event of the PDR calendar is the Annual General Meeting (AGM) of members, which is organized by each company on a rota basis, and lasts 2–3 days.

PDR Executive Board

The PDR Executive Board consists of the President, Vice President and the Secretary. It is elected by the meeting of the members for a period of 2 years. Its work is honorary and consists of:

- the management of the association;
- the representation of the association before third parties;
- he execution of the resolutions passed by the meeting of members;
- the organization of the Annual General Meeting of members and, whenever necessary, supplementary meetings.

The current PDR Executive Board members for the period 1994–1995 as well as the office holders over the last decade are compiled in Table I.

TABLE I: PDR BOARD 1984–1994

YEAR	PRESIDENT	VICE PRESIDENT	SECRETARY	TREASURER
1984	van Putte (Organon)	Peperkamp (Duphar)	Pickering (Wellcome)	Geiger (Byk Gulden)
1985	van Putte (Organon)	Spahn (Boehringer Ingelheim)	Peperkamp (Duphar)	a
1986	van Putte (Organon)	Geiger (Byk Gulden)	Peperkamp (Duphar)	
1987	van Putte (Organon)	Mlodzik (Ciba-Geigy)	Peperkamp (Duphar)	
1988	Mlodzik (Ciba-Geigy)	Peperkamp (Duphar)	Rein (BASF)	
1989	Mlodzik (Ciba-Geigy)	Mullen (Bayer)	Rein (BASF)	
1990	Mlodzik (Ciba-Geigy)	Mullen (Bayer)	Dubosc (Rhône-Poulenc Rorer)	
1991	Mlodzik (Ciba-Geigy)	Mullen (Bayer)	Dubosc (Rhône-Poulenc Rorer)	
1992	Mullen (Bayer)	Mlodzik (Ciba-Geigy)	Dubosc (Rhône-Poulenc Rorer)	
1993	Mullen (Bayer)	Mlodzik (Ciba-Geigy)	Dubosc (Rhône-Poulenc Rorer)	
1994	Mullen (Bayer)	Dubosc (Rhône-Poulenc Rorer)	Otto (Boehringer Ingelheim)	

[a]Office discontinued in 1985.

Tasks of coordinators

PDR coordinators are responsible for monitoring their topics in the following manner:

- by informing members about new and important developments and trends;
- by canvassing the views of members;
- by initiating, if necessary, the study and assessment of products and services;
- by presenting detailed reports at the meeting of members; and
- by arranging, when necessary, special meetings.

Main activities

The main activities of the PDR are focused on the Annual General Meeting of members and special subject meetings throughout the year. The Annual General Meeting (AGM) of the PDR has the following main features:

- a company report session describing major new developments in non-confidential areas;
- a main session that is generally devoted to a specific, current topic at the cutting edge of information technology. This core session is organized by the corresponding coordinators, and a limited number of external speakers are invited to participate. During the past few years, special topics were: 1) Drug Information Files on Development Compounds (1990), 2) Pharmaceutical Patent Files and Associated Information Services (1991), 3) CD-ROM Files and Their Alternatives (1992), and 4) three core topics: Copyright and Document Delivery, Drug Information Files on Development Compounds, and Economic and Commercial Data (1993).
- a presentation by each coordinator summing up the main events over the previous year in his or her field of activity; and
- the internal topics of the PDR, which include administrative and organizational matters as well as contacts with other organizations.

The topics currently monitored by the PDR coordinators are shown in Table II. The high quality of the evaluation work carried out by the PDR coordinators over the last few years

TABLE II: TOPICS CURRENTLY MONITORED BY THE PDR COORDINATORS

TOPIC	COORDINATING COMPANIES
Biotechnology	Boehringer Mannheim
CD-ROM databases	Knoll/Pharmacia
Company drug papers	Fisons
Copyright and document delivery	Wellcome/Wyeth
Document management and archiving	E. Merck/Boehringer Ingelheim
Drug information systems on development products	Bayer/Schering
Economic and commercial data	Glaxo
Future technologies	Boehringer Mannheim
Information management	Sandoz
Internal R&D data	Asta Medica
Library affairs	Gruenenthal/SmithKline Beecham
Adonis	Thomae
Literature services	
Biomedical	Byk Gulden/Syntex
Chemical	BASF
Patents	Rhône-Poulenc Rorer/Roussel Uclaf
PDR news	Organon/Sanofi
Reaction systems	Pfizer

has contributed to the noticeably higher profile of the PDR within the information industry.

Some examples of topics of special meetings arranged by the PDR coordinators over the last few years are:

- Adonis (organized by Thomae);
- biotechnology (organized by Boehringer Mannheim);
- company drug papers (organized by Organon);
- electronic document delivery systems (organized by Wellcome);
- internal R&D Data (organized by Asta Medica); and
- text retrieval software (organized by Wellcome).

Recent publications produced by coordinators were, for example, a comparison of biomedical databases[17,19] in 1991 and a comparison of reaction systems[20] and drug information files on development products[2,4] in 1992.

Conclusion

This overview has attempted to give a brief impression of the wide range of activities as well as the hard work undertaken by PDR members. We would like to think that the PDR is a serious partner for database producers and information suppliers, particularly with regard to the introduction of new services or the enhancement of existing ones. The response to surveys among PDR companies partly at the request of information suppliers is generally very close to, if not, 100%.

The impact of the PDR on the information scene depends to a very large extent not on previous laurels and achievements, but on the present and future activities of the organization. The PDR's ongoing objectives are to maintain or, if feasible, even raise current standards, as well as to establish even closer links to information suppliers and producers in a partner-like manner.

Acknowledgment

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