

International Metallurgical Classification: a Tool for Increasing Efficiency in the Exchange of Experience in Iron and Steel Field

G. Bricarelli

THE problem of technical and scientific documentation is becoming more and more complex, because of the rapidly increasing number of new publications. According to a rough evaluation, about two million new items are published throughout the world every year: books, articles, miscellaneous publications.

In order to cope with this problem, centres and organisations of technologists and scientists, together with experts in documentation, are established in all countries. I would mention here, for instance, the Indian National Scientific Documentation Centre (Insdoc), established a few years ago, which is carrying out excellent work and is already known the world over.

With its object of making information available to scientists and technologists in an efficient and economically practicable way, documentation is faced with problems more and more complex and difficult to solve, and has become a real science in itself, with its own scientists and research workers. I would recall here Professor Ranganathan, of the Delhi University, whom I had the pleasure to meet on several occasions at congresses and meetings in Europe, and who is not only an expert or scientist in documentation, but is indeed a philosopher of this field.

In Italy the problem of metallurgical documentation, especially in the subject of iron and steel was keenly felt soon after World War II. Within the Associazione Italiana di Metallurgia (Italian Association of Metallurgy) was then established the Committee on Metallurgical Bibliography, with Professor Scortecchi of the Genoa University as its president, and several other experts in different aspects of metallurgy, but mostly in the iron and steel domain.

The AIM Classification

The first problem tackled by the Bibliographical Committee was that of classification of metallurgical literature.

Discussions started at the first meeting of the Committee held at the Engineering School of Milan, and it appeared that all the members had already faced, in their own work and study, the problem of metallurgical classification. Each of the members had first taken into consideration the Universal Decimal

Classification, but all of them had discarded it, since they judged it unsuitable to classify the literature of a science so specialised and as rapidly developing as Metallurgy. Therefore, each of these metallurgists had worked out his own special classification scheme.

The Committee unanimously agreed, therefore, that a universal classification, like the UDC, was not suitable for metallurgical documentation: A special classification was needed.

However, the schemes worked out independently by the members of the Committee were a dozen, all of them pretty good, but different from one another.

The first decision of the Committee was to unify these different schemes, taking the best from each of them and the result was the "AIM Classification", i.e. the classification of the Associazione Italiana di Metallurgia.

The new classification was worked out by many specialists, who held numerous meetings and improved the scheme through eight editions.

The AIM Classification was immediately adopted by the Associazione Italiana di Metallurgia and, at the same time, by the Istituto Siderurgico FINSIDER, which is the research and documentation Institute of the FINSIDER Group, an organisation which represents more than half of the Italian iron and steel industry.

At the same time, a classification for mechanics was also developed, distinct from that for metallurgy, but based on the same principles, and closely related to it.

The ASM-SLA metallurgical classification

Shortly after the draft of the AIM Classification was ready, the Bibliographical Committee of the Association learned that, in the U.S.A., a Joint Committee of the American Society for Metals and the Special Libraries Association was working out a new classification for metallurgy: apparently our American colleagues were facing the same problem.

The Istituto Siderurgico FINSIDER got immediately the AIM scheme translated into English, and airmailed 10 copies of the translation to the American Committee which was developing the new classification. Our American friends accepted willingly our contribution, and utilised it for their work. In 1950 appeared, published by the American Society for Metals, the new classification which took the name of ASM-SLA Classification, from the two associations that collaborated in preparing it.

Dr. G. Bricarelli, Istituto Siderurgico, FINSIDER, Genova-Cornigliano, Italy.

The new scheme was in many respects similar to the AIM Classification. The Italian Committee immediately realised the great advantages that could be derived from the adoption a classification that would be common to metallurgists all over the world.

The first step that was envisaged towards an international standardisation of metallurgical classification was to adopt in Italy also the new scheme worked out in the United States along lines very similar to the former Italian classification.

The question, which obviously presented some practical difficulties, was carefully examined in all its aspects. A close exchange of correspondence began with the American Society for Metals and particularly with Mrs. Marjorie R. Hyslop, Editor of "Metals Review" and Managing Editor of "Metal Progress", who had been the Secretary of the Joint Committee that had prepared the new Classification.

Eventually it was decided to adopt the ASM-SLA scheme, which was translated into Italian and published by the Associazione Italiana di Metallurgia early in 1955. The new Classification was immediately adopted also by the Istituto Siderurgico FINSIDER.

The International Metallurgical Classification

Obviously, the first edition of the ASM-SLA Classification, though marking, from several points of view, a progress in comparison with the AIM Classification, was not perfect. It had to be expanded and improved in many directions. This was very apparent to our American colleagues as well as to us.

When the Italian Committee put before the American Society for Metals the possibility of proposing the ASM-SLA Classification as an international classification for metallurgy, our American friends at once declared themselves willing to introduce into their scheme all those additions and improvements that would prove useful to make the Classification really efficient and worthy to be adopted as an international standard.

Within the American Society for Metals a Special Committee on Literature Classification was established, with the task of working out a new edition of the Classification improved and more complete. The Committee, composed of specialists in all the branches of metallurgy, held a number of meetings and kept the Documentation Committee of the Associazione Italiana di Metallurgia constantly informed of its proceedings. The Italian Committee was always asked for its opinions and suggestions for the new edition. For its part, the Italian Committee was only too glad to transmit to their American colleagues all those suggestions which were coming from the practical use of the Classification by the Associazione Italiana di Metallurgia and the Istituto Siderurgico FINSIDER. From this friendly collaboration of American and Italian experts resulted the second, international, edition of ASM-SLA Classification, which is consi-

derably improved and more complete than the first edition.

Diffusion of the ASM-SLA Classification

At the same time as the second edition was worked out, wide publicity was made throughout the world, towards the adoption of a common classification for metallurgy on the basis of the ASM-SLA scheme. This classification had been adopted by the Information Section of the British Iron and Steel Research Association (B.I.S.R.A.) even before its adoption in Italy; it was later adopted in Germany by the Institut für Harterei-Technik of Bremen (heat treatments), in Italy by the Istituto Sperimentale dei Metalli Leggeri (light metals) etc. In the United States it was adopted by very large companies and organisations, like the U.S. Steel Company, the Republic Steel Corporation, the Acme Steel Company, the Kaiser Aluminium and Chemical Corporation, the U.S. Atomic Energy Commission, etc.

Several journals began to code with the ASM-SLA symbols their articles and abstracts. Besides "Metals Review", which for a long time has been coding its abstracts with the ASM-SLA symbols, "Metal Progress", "Transactions ASM", "La Metallurgia Italiana", "Alluminio", "Harterei-Technik and Wärmebehandlung", etc. adopted this practice.

A success, I would say, decisive, of the action towards the diffusion of the ASM-SLA Classification at the international level, was attained one year ago, when, at a committee of the European Coal and Steel Community (CECA), it was agreed to adopt this Classification, under the name of International Metallurgical Classification, in France and Germany also. By 1960, France and Germany will adopt the new Classification, which will become the official metallurgical classification of the Community.

The second Italian edition of the Classification is expected to be published. Within 1960, the French and German editions will also appear. It is foreseen that, when the second edition will be available in English, Italian, French and German, many other countries will follow the example, and will adopt the International Metallurgical Classification.

Utility of an international metallurgical classification

The simple fact of adopting a common classification is of course not enough, by itself, to make more efficient the exchange of publications, and therefore, of experience, between different countries. The classification must be actually used, not only for individual card files, but whenever information and experience are transmitted to others, both at the national and international levels.

The first use for an international special classification should be that of coding at their origin all the articles appearing in each journal belonging to the scientific or technical field for which that classification is intended. In this way, the classification would

be exact and appropriate, since the person who codes an article would be the author of the paper or the editor of the journal. Moreover—and this is most important—if articles were coded at their origin, the problem of classifying bibliographical cards, a really big problem for documentation centres, libraries and individuals willing to keep a personal file, would be completely and automatically eliminated. The economic advantage to documentation organisations all over the world would be immense since coding work, to be reliable, must be done by experts and, therefore, is very expensive.

If articles were already coded by the author, or by the editor of the journal, filing and cataloguing work would become very simple and rapid: it would just consist in copying titles and relevant bibliographical data, and classification codes. This clerical work can be done by ordinary office personnel, and would be comparatively very cheap. Since the classification scheme would be the same throughout the world, filing and cataloguing work would be equally easy and simple in all countries. Obviously, it it would not be so if journals coded their articles using different classifications, as is now done in certain fields.

Still greater advantages could be obtained if, for every article published in scientific and technical journals, were printed not only the international classification codes, but also a short abstract, if possible in more than one language. In that case, if the typographical arrangement of the abstracts were also made according to certain standard rules, catalogue cards could be made simply by reproducing on the cards, by a photo-offset process, the titles of the articles with their abstracts and classification codes. Copying by a typist would not be necessary, and the risk of introducing transcription mistakes would be completely eliminated.

As has been stated above, a certain number of metallurgical journals already publish their articles coded according to the International Metallurgical Classification, while other journals code their articles according to other classifications as for instance, the Universal Decimal Classification. Moreover, many journals print, at the beginning of their articles, a short abstract; in some cases the abstract is given in more than one language. However, these practices which developed let us say, spontaneously in different countries and on the initiative of individual publishers, are undoubtedly very useful, but still they lack that standardisation that would very much increase their usefulness from the point of view of the exchange of experience between scientists and technologists of all countries.

It is in the interest of all people in science and industry to standardise the tools of their work. Every broad field of science and technology should have its own special international classification, and use it in its own journals, card files and documentation centres throughout the world. As far as metallurgical journals are concerned, and in particular those devoted to iron and steel, it will give

a vigorous impulse to metallurgical progress, and will be highly beneficial to the metallurgical industry, if an increasing number of them will code their articles according to the International Metallurgical Classification, and will print, with every article, a short abstract, if possible in two or three languages among those most used in science and technology, arranged in such a manner as to be easily reproducible on standard cards.

A project for Europe

As an example of the importance of a special international classification for metallurgy to improve the exchange of experience in the field of iron and steel I wish to mention a project which is now under study in the European Coal and Steel Community.

After World War II, in the countries of the Community, some arrangements made to prepare and distribute bibliographical abstracts in the field of metallurgy, and especially in that of ferrous metallurgy. These arrangements were different in scope, some being confined to an individual company, while others were at the service of several companies or open to the public; any way, as a rule, they have hitherto remained confined to individual countries.

However, it becomes every day more evident how expensive these services are, and one realises more and more clearly that, when they are operating in different countries independently of one another, they do huge amounts of duplicating work. Therefore it has been proposed to join the efforts and to establish a single service to the advantage of the whole Community.

According to the project under study, the CECA should coordinate and take care of the work of preparing bibliographical cards in the field of iron and steel, or perhaps of the whole field of metallurgy, for the benefit of all interested industries and technologists in the six countries of the Community.

Every card, of standard size, should bear a short abstract of the article, of contents of the book or other publication, and should be coded according to the International Metallurgical Classification. Cards would be printed for all interested metallurgists and organisations in the CECA countries; their unit cost, would therefore, be very low. They could be distributed on a subscription basis; every interested institute, or company, or individual in the Community could build up his own card file, based on the common classification.

The coordinated abstracting and cataloguing of metallurgical literature, now under study for Western Europe, could be the first steps towards a much wider cooperation, on a world basis. It is easy to realise the immense economy of specialised manpower and money that such a cooperative effort would bring about.

As a prerequisite for this, however, there should be first the adoption of a special classification common to metallurgists all over the world. In order

to achieve this unification, some should perhaps give up, as has been done in Europe, the classification scheme they are using at present, and discontinue their current card files to start with new ones. But these individual sacrifices will be widely rewarded by the immense advantages which will accrue to everybody from a central and standard service.

Acknowledgement

The author wishes to thank the Istituto Siderurgico FINSIDER for permission to publish this paper.

References

- 1 "ASM-SLA Metallurgical Literature Classification", Prepared by a Joint Committee for the American Society for Metals and the Special Libraries Association—American Society for Metals, Cleveland, 1950.
- 2 M. Scortecchi—"Confronto critico fra le classificazioni della Metallurgia Italiana, Francese e Americana"—*La Metallurgia Italiana*, 53, No. 3-4, March-April, 1951, pp. 110-120.
- 3 P. E. Colinese—"Why BISRA has adopted the American

- Society for Metals/Special Libraries Association (ASM-SLA) Metallurgical Literature Classification" ASLIB Proceedings, 5, No. 4, November, 1952, pp. 345-348.
- 4 Marjorie R. Hyslop—"International Cooperation in Metallurgical Literature Classification"—*American Documentation*, 4, No. 1, January, 1953, pp. 1-3.
- 5 "La Classificazione AIM"—*La Metallurgia Italiana*—Atti notizie—No. 1, January, 1953, pp. 9-16.
- 6 United States Atomic Energy Commission—"Classification Code for Indexing Metallurgical Literature"—Technical Information Service, Oak Ridge, February 1953.
- 7 "Classificazione Bibliografica Internazionale della Metallurgia"—I Edizione Italiana della Classificazione ASM-SLA—Associazione Italiana di Metallurgia, Milano, 1955.
- 8 G. Bricarelli—"Recents progres dans la classification bibliographique de la metallurgie"—(Note prepared for the XXII Conference of the International Federation of Documentation, Brussels, 8-18 September, 1955)—Istituto Siderurgico FINSIDER, Genova-Cornigliano, 1955.
- 9 A. Scortecchi—"Collaborazione e specializzazione nell'informazione bibliografica a livello nazionale e internazionale"—*Produttività*, 9, No. 9, September, 1958, pp. 715-721.
- 10 "ASM-SLA Metallurgical Literature Classification"—International (Second) Edition, Revised by ASM Committee on Literature Classification with the cooperation of the Italian Association of Metallurgy, acting as spokesman for several European groups—American Society for Metals, Cleveland, 1958.

