



It would be appreciated if you could send the Secretary General the up to date information on your university in the format given in the two previous questionnaires. He would then be able to update the data base. In the meantime the old data that were given in the initial survey will remain in the data base. It will be appreciated if the members can assist in this survey.

In addition to this updating of the survey of the course structures, you will all recall that a listing of the titles of PhD theses granted in the last 10 years at your university were asked for. There was never a very good response to this call for information, but it is being made once again as a data base of completed theses is also in the process of being built up.



NEWSLETTER

**SOCIETY OF MINING PROFESSORS**



**SOCIETÄT DER BERGBAUKUNDE**



**February 1996**



### Editorial

With the gold price rising steadily and other metals having prices at reasonable levels at present, the mining industry itself is doing quite well. However, as a result of the tough times just past, there has been a change of management style in many of the major multinational companies. They are moving, or have moved away from having a large complement of mining expertise internally. The present trend seems to be more and more towards the use of specialist consultants for all aspects of mining design. Indeed the mining consulting companies are doing rather well at present.

However, the new system does raise the question of the supply of the expertise to the consulting companies, the supply of the good experienced consultants to staff the consulting companies.

Initially and at present there is a supply of expertise coming out of the mining companies themselves as they slim down their internal expert staffing levels. This and the supply from the closure of much of the European coal mining industry has led to there being a pool of skilled consulting staff available.

The question remains, where are they to come from in the future? The new slim mining companies are training fewer staff and are concentrating on production personnel, outsourcing the specialist expertise they need. So there is not developing in the mining companies themselves, a new pool of potential, experienced (in the sense of having on mine production experience), specialist staff. The training of the specialists is being left to the consulting firms who are employing young graduates and giving them work experience of a different sort. This is not the same as on mine experience, and it has always been believed that the latter is needed for really practical solutions to problems to be developed.

It is all the more important, therefore, for the mining educational establishments to ensure that some practical element is included in their courses. In particular the requirement for work in the industry in the summer vacations must be maintained. This in turn means that all the mining companies need to offer such work experience. It would be worth developing some advice and guidelines as to how the mining companies might obtain most benefit from the employment of students, while helping the universities to educate them, in order to encourage them to use more



students in the summers. This could be a task for the Society, let us develop a "How to get the most out of vacation students" guide book.



### Information on Mining Engineering Courses offered

GRAND TOTAL

Hours

Theoretical Duration of Course - Semesters

Theoretical Duration of Course - Terms

Weeks per Semester/Term

Maximum contact hours per week

Years

Average contact hours per week

Degree Awarded

Pre-university Industrial Work Required

Practical Training During Course - weeks

Field Trips - weeks

#### BASIC ENGINEERING STUDIES

MATHEMATICS - % - Hours

PHYSICAL SCIENCES - % - Hours

METALLURGY &amp; MATERIALS - % - Hours

GEOLOGY &amp; SURVEY - % - Hours

MACHINERY - % - Hours

COMPUTING &amp; INFORMATION SCIENCE - % - Hours

MANAGEMENT &amp; ECONOMICS - % - Hours

ELECTIVES - % - Hours

LANGUAGES - % - Hours

TOTAL BASIC ENGINEERING STUDIES - % - Hours

#### DISCIPLINARY STUDIES

MINING ENGINEERING - % - Hours

GEOMECHANICS - % - Hours

MINE ENVIRONMENT - % - Hours

MINING MACHINERY - % - Hours

ELECTRICAL - % - Hours

PROCESSING - % - Hours

EXPLORATION &amp; GEOLOGY - % - Hours

MINE SURVEYING &amp; THE ENVIRONMENT - % - Hours

COMPUTING - % - Hours

ECONOMICS &amp; MANAGEMENT - % - Hours

UNDERGRADUATE THESIS - % - Hours

ELECTIVES - % - Hours

TOTAL DISCIPLINARY STUDIES - % - Hours





At the last meeting it was decided that the next one would be in Moscow. Professor Puchkov was elected president of the Society and is in charge of organising the meeting. He has started on this work and is in contact with the Secretary General, so any correspondence should preferably go direct to Moscow, but will be forwarded if sent here. The whole of the Society's committee is involved in the planning of the meeting.

The preparations for the meeting are coming along well and there is already a tentative agenda which is included in this Newsletter. If any members have any issues they wish to see raised at the meeting it would be appreciated if they could send suggestions directly to Prof. Puchkov or to the Secretary General. There will be three Society business sessions in addition to other working sessions at which some papers will be read, and Society matters will be able to be raised and discussed during these times.

It looks as though it will be another very good meeting and members are all urged to attend. The real benefits from the activities of the Society are obtained through attendance at the annual meetings. The Journal and the Newsletters do inform on the working of the Society, but the interaction directly with one's peers is probably the main gain to be obtained from membership. Those of us who have attended all the meetings have gained much in terms of co-operation and mutual discussion and support.

There has also been work done by small sub-committees on matters of interest to the members of the Society. However, it is only practical to become a member of such a sub-committee if one attends. Arising from the last meeting a sub-committee



### **7th Annual General Meeting Society of Mining Professors/Societät der Bergbaukunde**

The Society was formed at the first meeting, held at the Montanuniversität in Leoben in 1990. In 1991 the Annual General Meeting was held in Luleå in Sweden, it was at Gliwice in Poland in 1992, Clausthal, Germany in 1993, Ljubljana, Slovenia in 1994, Miskolc, Hungary in 1995. This, the 7th. meeting will be held in Moscow, Russia from 24th to 28th August, 1996.

The present proposed agenda for the meeting would be as follows:

|                      |   |
|----------------------|---|
| Saturday, 24 August  | Arrival in Moscow<br>Welcoming dinner at hotel  |
| Sunday, 25 August    | Sightseeing and cultural visits Moscow  |
| Monday, 26 August    | 10.00 Opening Ceremony, Moscow State Mining University  |
|                      | 11.00 Coffee break  |
|                      | 11.30 Plenary session, Mining Industry and Higher Mining Education in Russia: Present conditions Future Developments. |
|                      | 1.00 Lunch  |
|                      | 2.00 Business session - formal meeting of the Society   |
|                      | 3.30 Coffee break   |
|                      | 4.00 Visits to laboratories of Moscow State Mining University   |
|                      | 6.00 Return to hotel  |
|                      | &.00 Evening function   |
| Tuesday, 27 August   | 9.00 Second business session of Society   |
|                      | 10.30 Coffee Break  |
|                      | 11.00 Mining education in -----   |
|                      | 1.00 Lunch  |
|                      | 2.00 Main directions of Mining Research in the Russian Mining Universities  |
|                      | 3.30 Coffee break   |
|                      | 4.00 Closing business session.  |
|                      | 5.00 Closure of 6th AGM   |
|                      | 7.00 Evening function   |
| Wednesday, 28 August | Technical visits for those who can stay<br>Participants depart in the evening.  |



There was then some discussion on how the University of Miskolc had had such a huge increase in Student numbers in the last couple of years. This, it was explained was due to the introduction of three new courses, Environmental Technology, Mineral Processing and Geography. In addition, they had dropped the old entrance examinations and now accepted students on their high school diplomas. The result was a huge rise in numbers in the Department, but regrettably not in mining engineering.

The meeting closed at 12.15 for lunch and again for the social events of the afternoon. In this case the delegates were bussed to Aggtelek where they were to visit the dripstone caverns there. These have been used by humans for some 6 millennia and were interesting caves in themselves. Deep inside the cave system there is a large cavern which is used as a concert theatre. Here it had been arranged that a miners brass band would be there to give the delegates and their spouses a concert. It is understood that this was in fact the first time that a brass band had given a concert there. The acoustics were superb and the concert was much appreciated.

After this there was the final dinner back in Miskolc.

As usual the Wednesday was given over to visits to mines. Two visits were organised, one to an underground lignite mine and the other to two open pit lignite mines. Both visits were much appreciated.

It is to be recorded that the University of Miskolc prepared an interesting well attended conference. The professors attending had much opportunity to renew their ties and to make arrangements with each other for further co-operation in the future. In all it was a very successful conference.



**MINUTES OF THE 6TH ANNUAL GENERAL MEETING**  
**MISKOLC UNIVERSITY**  
 September 17 to 20, 1995

The registrants arrived on Saturday 16th and Sunday 17th. September, 1995 at the Hotel Juno in Tapolca, Miskolc, chosen to be the site for initial registration. On Sunday 17th there was an official welcoming dinner at the Hotel for all those registrants who had arrived in time.

Day 1

The official opening of the meeting took place on the morning of Monday, 18th. September in the Selmec Memorial Library at the University of Miskolc. This library is the original library of the old university which started in Selmec (Chemnitz) in 1735, moved to Sopron in 1918 and then on to Miskolc in 195x. An interesting exhibit was a set of the original text books used by the first mining students of 1735.

The members attending the meeting were: Professors A. Adamson, J. Agafonov, G. Almgren, V. Badino, U. Bajzelj, V.F. Byzov, B. Drzezla, J. Fabian, G.B. Fettweis, M. Georgescu, H. Gerhardt, M. Hardygora, W.T. Hennies, N. Ilias, V. Kharchenko, M.J. Karmis, W. Knissel, F. Kovacs, W. Lukas, R. Matikainen, J. Palarski, A.G. Pasamehmetoglu, J. Patvaros, V. Pavlovic, H.R. Philips, D. Potts, L.A. Puchkov, E. Reinsalu, Z. Somosvari, C.T. Shaw, R. Steinmetz, W. Vogt, F.L. Wilke and N. Zabranski.

Sincere thanks should also be recorded to the those who assisted Prof. Kovacs in the planning and running of this conference, in particular Dr. Molnar and Mr. Benkhe, but also the rest of his staff, without whose help the conference would not have been half the success it was.

(18 countries were represented - Austria, Brazil, Estonia, Finland, Germany, Hungary, Italy, Poland, Romania, Russia, Slovakia, Slovenia, South Africa, Sweden, Ukraine, United Kingdom, United States of America, Yugoslavia.)

The opening ceremony started with a welcoming address by Prof. Kovacs, the president of the Society. He welcomed the participants and then introduced Prof. Dr. J. Patvaros, to give us a talk on the Department of Mining Engineering at the University of Miskolc and its 225th anniversary



this year. Prof. Kovacs himself then gave a lecture on the present condition and future trends of the mining industry of Hungary.



After a break for coffee and a look at the fascinating collections of books in the Library Dr. L. Tihanyi, Pro-Dean of the Department of Mining Engineering gave a talk on Mining Education in the Faculty of Mining Engineering at the University of Miskolc.

The Society then started with its normal business.

The apologies for absence were recorded and these included Professors A.S. Abdel-Khalik, F. Adler, G. Althaus, J. Antoniak, Covaci, I. Dementiev, P.A. Dowd, M. Duchene, K.R. Dunham, H. Eichmeyer, S. Eskikaya, H. Filcek, A.K. Ghose, T.S. Golosinski, C.E. Gregory, P. Hackett, Hassan F. Imam, W. Helms, D. Hodges, P. Hofrichter, J.A. Hudson, S. Knothe, E. Lechner, H.J. Lürig, K-H. Lux, P.N. Martens, P. Mousset-Jones, A. Neumann, K. Nielsen, S. Pelizza, Ramirez Oyanguren, E.U. Reuther, F. Roxborough, M. Salamon, M. Scoble, B.G.D. Smart, K. Spies, R.D. Stoll, K. Strzodka, J. Tunncliffe, K. Uchino, A. Vervoort, H. Wagner, P. Weber,

The minutes of the previous meeting were accepted as an accurate recording of the proceedings of that meeting.

Matters arising from the minutes were then discussed. The first item was the amendment to Article 10 of the constitution to allow for the council to expel from membership those members who fail to pay their annual subscriptions. This is necessary since the subscription to the Journal Mineral Resources Engineering has become included in the membership fee. The Society will be liable for the journals sent to all members and thus non-payment of fees will place the Society in a difficult financial situation. Therefore the need to be able to expel members who fail to meet their obligations to the Society. The old article 10 and the new article 10 are as follows:

#### Original Article 10

The Council may terminate the membership of any member the activities of whom are considered to be incompatible with the objectives of the Society. Such termination shall be proposed by the Council after having heard the defence (orally or in writing) of the interested party. The vote on a resolution to terminate the membership of any member shall be by secret ballot.



Prof. Fettweis agreed and pointed out that the length of our traditions had been demonstrated that morning by the papers of Prof. Patvaros and Vogt. It had always been a broad discipline and was if anything getting broader. Mining educationalists needed to tell the public what we do, and how vital this was to the standard of living of the world at large. He proposed the formation of a small committee to look into ways and means of informing the public in this way.

Prof Badino pointed out that Italy had crossed the bridge some years ago when they ceased to call anything taught at a university mining. It was his opinion that they were the leaders in this field and that in the long run we would all have to take similar decisions. By calling the discipline, or the departments, departments of environmental and land engineers they were recognising the broader scope of what we do, indeed, similar to Prof. Wilke's previous remarks of suggesting that any work within the crust of the earth fell into this area. Prof. Badino pointed out that life cycle analysis of usage of portions of the earth's crust for any purpose was of coming importance and that the engineers produced by our institutions, whatever they are called, were the only ones able to do this sort of work.

Prof. Karmis pointed out that the Society of mining Engineers had been doing this sort of publicity for some years and that they had had some success. They had persuaded mines and quarries to run Good Neighbour programmes to ensure that their local communities knew what they were doing, what their products were used for and so on. He said it was necessary really to educate the politicians first and then the public. Working with teachers in the schools was a good method of proceeding.

After much more discussion in which Prof. Almgren raised the issue of who decides on the curriculum, the industry, the government, the universities or even the students, it was decided that a small committee should be formed. After further discussion a committee consisting of Professors Badino, Shaw, Vogt and Wilke would be formed to look into the matter of publicity for the mining industry and the mining educational institutions. This committee should report and make proposals to the next meeting of the Society in Moscow.

There was some discussion of the preparation of the agenda for the next meeting of the Society in Moscow and it was agreed that Prof. Puchkov should liaise closely with the Council of the Society which should have



overall responsibility for the technical programme, though the social programme would of course be left to the host university to organise.



and their spouses were able also to sup and to taste the wines of the district. This was a very pleasant social evening.

## Day 2

This day started with a walk to a conference room belonging to the University near to the Hotel. There the morning started with a very interesting talk by Professor Patvaros on Delius, who had been the first head of the mining Department when the school started in Selmec (Chemnitz) in 1735.

The next item on the agenda was a talk by Prof. Vogt on Higher Education in Mining Engineering and the funding of this education in Europe. This paper will be printed in Mineral Resources Engineering. Prof Vogt gave his opinion that this was the main topic which should be discussed by the Society in the light of the decline of mining in Europe and of the environmental problems associated with mining. His talk was very thought provoking and gave rise to vigorous discussion of the future of the mining universities.

Prof. Wilke pointed out that the problem was to include the new subject areas, such as the environment, underground and surface waste disposal, a higher level of mineral economics and so on. This could only be done by offering new courses or by widening the optional specialisations within the existing courses. This was all giving rise to a squeeze on the time available for existing courses.

Prof Shaw pointed out that the squeeze was coming from both ends as the decline in the quality of the primary and secondary education, in England at least, was giving rise to the need for remedial courses in mathematics and the basic sciences at the start of the course as well.

Prof. Vogt pointed out that his diagram showing that we seemed to have a choice between the depth of knowledge and the breadth of subjects covered, but that we could not do both in the time available, and in most of Europe there was pressure to shorten courses anyway.

Professor Palarski pointed out that in the case of mining engineering there was the problem of the statutory requirements for certification of mine management, which meant that the mines inspectors expected a level of



knowledge from the mining graduate which it was becoming ever harder to deliver in the time available.



## New Article 10

The Council may terminate the membership of any member, the activities of whom are considered to be incompatible with the objectives of the Society. Such termination shall be proposed by the Council after having heard the defence (orally or in writing) of the interested party. They may also terminate membership for non-payment of the annual membership subscription, provided that the offending member shall first have received a reminder that he/she is overdue, followed by a warning that such termination is imminent if she/he continues to be in default of payment. The vote on the resolution to terminate the membership of any member shall be by secret ballot.

**The new article 10 was passed** and is now in the Society's constitution.

The Secretary General then reminded members that in 1994 the annual subscription for 1994/95 had been set at £85, which sum included the subscription to the journal and also an amount to help get the Society registered somewhere. The latter surcharge would not be included again and therefore the suggested subscription for 1995/96 was £ 75.00 (or its other hard currency equivalent) which would cover the subscription and the small running costs of the Society. It was **agreed that the subscription for 1995/96 would be £ 75.00.**

The Secretary General then reported on the results of the questionnaire about the workings of the Society that had been sent out with a previous Newsletter. The response was poor, but the consensus seemed to be that an annual meeting was the preferred option for meetings. It was unanimous that one aspect of the annual meetings should be arranged visits to mining operations. As far as what the members wanted from the Society the majority of respondents, and those members present at the meeting wanted regular newsletters and the Journal subscription. There were a variety of other suggestions, such as exchanges of staff and students and the production of annual statistics for the member universities. Items such as student exchanges it was pointed out were really for discussion between members and these were expected to arise as off shoots of the discussions and interactions at the annual meetings. So, to benefit in this was attendance at the meetings would seem to be necessary. The Secretary



General was quite happy to collect, analyse and distribute statistics but he expressed some scepticism as to the chances of persuading all members to send in the information!



As far as getting the Society registered was concerned the Secretary General reported that he had collected information, but had, due to the pressures of other work, not had time to do more in 1994/95. However, he had just had a reduction of his duties at Imperial College and should be able to devote more time to the Society in 1995/96 and would pursue the matter now. This was accepted by the members present.

Two other suggestions in the minutes from the last meeting had not been progressed yet. The first was the suggestion that the few lists of theses so far sent in by members should be circulated to encourage others to follow suit, and the second was that software developed by the various member universities should be made known to the other members and should be possibly made available to them. (The questionnaire at the end of the Newsletter in which these minutes are appearing covers the latter point).

New Members of the Society, Professors Dunham, Fabian and Hardygora were welcomed to the Society, the latter two being present were welcomed in person.

The next item on the agenda was the venues for the next meetings. The meeting for 1996 was confirmed as Moscow, the Moscow State Mining University, and the date was set as **August 24th to 28th**. It was noted that most airlines give discounts on fares if a Saturday night is included in the stay, so the suggestion was made that for Moscow the meeting should be planned with arrival on Saturday. The following meeting of the Society will be in 1997 in Helsinki, Finland and the one after that is expected to be in Turin in Italy. There is also a bid from the Urals State Mining University in Ekaterinberg, Russia for 1999. So there is still strong interest in holding the Society's meetings.

The constitution of the Society stipulates that the term of office of the Secretary General shall be five years. The first five years of the existence of the Society being complete therefore there was a need to elect a new Secretary General. Prof. Shaw, the outgoing Secretary General agreed to stand for re-election, and there being no other candidates, he was re-elected for another term of 5 years. Arising from the selection of the venues, and according to the Constitution of the Society, Professor Puchkov of Moscow State Mining University, was elected as the President of the Society of Mining Professors/Societät der Bergbaukunde for 1995/96. In addition, Prof. Matikainen, as the host for the next but one meeting was elected to the



Council of the Society. The Council for the year 1995/96 therefore consists of Professors Bajzelj, Kovacs, Matikainen, Puchkov and Shaw.



The main business of the meeting now being complete, discussions were started on developments over the preceding year in the various universities for which members were present.

Prof. Shaw reported that the name of his Department at the Royal School of Mines had been changed from the Department of Mineral Resources Engineering to the Department of Earth Resources Engineering. This was to reflect the changes in the Department where there has been the addition of a course of study in Environmental and Earth Resources Engineering to the other two existing courses of Mining Engineering and Petroleum Engineering. The students follow a common course of study in their first year. In the second year there is a substantial common element but the students start to branch out into their specialist courses of Environmental, Mining or Petroleum Engineering. The third and fourth years of study are substantially separate.

Professor Wilke reported that Berlin has combined the Mining, Geoscience and Civil engineering departments into one large unit called Geoengineering. This is to cover everything that is engineered in the earth's crust. It includes tunnelling, hydrogeology, geotechnical engineering and natural resources (mining). This was believed to be a good development by he was unhappy with the initial realisation of the change. The plan was to complete under the old system those students who had started before the change. The students in the changed system had just completed their first year of study.

Professor Matikainen reported that Helsinki is now moving towards giving all courses, at post graduate level, in English. They are doing joint courses with Luleå already and wish to make this more Europe wide. They will be investigating such further ties in the next year.

At this point the meeting broke up for the annual photograph to be taken followed by lunch. After lunch, the delegates went on a trip to the old town of Sarospatak. In the evening there was a visit to one of the famous wine cellars of the Tokai district. This was an excellent example of the use of underground space, there being some several kilometres of cellars dug into the volcanic ash of the mountainside. The tunnels had all been beautifully cut, all of it by hand methods, and the tool marks are still clearly visible. The delegates and their spouses were taken for a long walk through the cellars and had explained to them the fact that they had a



constant temperature year round and some 90% humidity, which was ideal for maturing wine. The walk ended in a cellar where tables had been set up and the delegates