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 WEISS, K.
 WEISS, Monika
 WITTKE, W.

FINLAND / FINLANDE

ANITIKOSKI, U.
 AVELLAN, K.
 EEROLA, L.
 EKLUND, P.
 HAILIKARI, T.
 HARTIKAINEN, J.
 HEIKKILÄ, J.
 HILTUNEN, R.
 HOLKKO, J.
 JÄÄSKELÄINEN, H.
 JUHOLO, M.
 KEINONEN, L.
 KEINONEN, Marita

KLEEMOLA, J.
 KLEEMOLA, Tarja
 KOPONEN, H.
 KOPONEN, Leena
 KOPPINEN, J.
 KORHONEN, K.H.
 KUJALA, K.
 KUUSINEMI, R.
 LAHTINEN, P.
 LEMINEN, K.
 LESKELÄ, A.
 LOJANDER, M.
 MÄKELÄ, H.
 MÄKINEN, R.
 NATUKKA, A.
 NATUKKA, Liisa
 NYLUND, S.
 NYLUND, Ulla
 PELTOMAA, P.
 PETÄJÄ, J.
 PUTAALA, J.
 RAITHMAYER, H.
 RAVASKA, O.
 RAVASKA, Anna-Kaisa
 RUOPPA, A.
 RUOPPA, Tuula
 SAARELAINEN, S.
 SAARELMA, M.
 SLUNGA, E.
 SOLOVJEW, N.
 SOLOVJEW, Leena
 TAMMIRINNE, M.
 TAMMIRINNE, Imeli
 TUISKU, T.
 VÄHÄÄHO, I.
 VENHOLA, J.
 VENHOLA, Tuula
 VEPSÄLÄINEN, P.
 VESALA, E.

FRANCE / FRANCE

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 ALBERT, R.
 AMAR, S.
 AMOROS, D.
 ATTAL, A.
 BACHELIER, M.
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 BAGWELIN, Marcelle
 BECUE, P.
 BERGIN, J-P.
 BIAREZ, J.
 BIAREZ, Mrs.
 BOELLE,
 BOLLE, G.
 BODES, J-L.
 BOUVARD, Anne
 CAMBEFORT, H.
 CAMBEFORT, Mrs.
 CAMBOU, B.
 CARTIER, G.
 CASSAN, M.
 CHAPEL, F.
 CHEMALI, S.
 CLERDOUET, D.
 COLAS DES FRANCS, E.
 CORDARY, D.
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 COTTIEREAU, Mrs.
 COUDERC,
 DANCOURT, P.

DAVIS, A.
 DAVIS, Mrs.
 DESCHAMPS, P.L.
 DEVEAUX, D.
 DIDIER, G.
 DORE, M.
 DUPEUBLE, P.
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 FLEPP, G.
 FLEUREAU, J-M.
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 FOURNIER, J.
 FRANK, R.
 GAMBIN, M.
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 GIELLY, J.
 GOUVENOT, D.
 GOUVENOT, Mrs.
 GUERPILLON, Y.
 HABIB, P.
 HABIB, Evelynne
 HAIUN, G.
 HICHER, P.Y.
 HUOT, P.
 HURTADO, J.
 HUYNH, P.
 ISAMBERT, F.
 JURAN, I.
 KASTNER, R.
 KERISEL, J.
 KYVELLOS, G.
 LAREAL, P.
 LEDEUIL, E.
 LEFEBVRE, D.
 LEGEAIS, M.
 LEGEAIS, Mrs.
 LEGENDRE, M.
 LETIRANT, P.
 LONDE, P.
 LONDEZ, M.
 LOUIS, C.
 LUONG, M.P.
 MARTINET, A.
 MASSONET, P.
 MENARD, Françoise
 MIZIKUS, J.P.
 MOULIN, G.
 NAUROY, J-F.
 PANET, M.
 PFISTER, P.
 PILOT, G.
 POST, G.
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 SAINT REMY PELLISSIER, C.
 SAINT REMY PELLISSIER, Mrs.
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 SANGLERAT, G.
 SANGLERAT, Thierry
 SCHLOSSER, F.
 SEJOURNE, M.
 SIEFFERT, G.
 SIGISMOND, J.
 SOEIRU, I.A.
 SOEIRU, Mrs.
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 THELLIEZ, Mrs.

VARAKSIN, S.
 VAULOU, L.
 VERRIER, G.
 VUEZ, A.
 ZALESKI-ZAMENHOF, L.C.
 ZANIER, L.
 ZOLZETTICH, A.

GERMAN DEMOCRATIC
 REPUBLIC / REPUBLIQUE
 DEMOCRATIQUE ALLEMAGNE

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 FÖRSTER, W.
 RATTAY, W.

GREECE / GRECE

ANAGNOSTOPOULOS, A.
 ANAGNOSTOPOULOS, Eliza
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 COUMOULOS, D.G.
 HADJIEFTHIMIOU, D.
 KARAS, B.
 LOIZOS, A.
 MARONIKOLAKIS, K.
 PACHAKIS, M.
 PAPADOPOULOS, B.
 PSALLIDAS, C.
 PSALLIDAS, Evagellia
 SOTIROPOULOS, E.
 TZIRITA, A.

HUNGARY / HONGRIE

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 DOMJAN, Vilma
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 PETRASOVITS, G.

INDIA / INDE

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 MAY, Catherin

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 MCLAUGHLIN, A.A.F.
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 WIDDIS, T.F.

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 DEVECSERI, D.
 DEVECSERI, Susan
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 ZOLKOV, E.

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 DE NICHOLO, Clorinda
 COTTI, H.
 CRESPELLANI, Teresa
 CROCE, A.
 CROCE, Giovanna
 D'ELIA, B.
 DA ROIT, R.
 DEL PRETE, M.
 DEMONTIS, G.
 DE ROBERTO, A.
 DIAMANTI, L.
 DI PIAZZA, G.
 DONEDDU, G.
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 FEDERICO, A.
 FEDERICO, G.
 FERRARI, P.
 FIORUZZI, A.
 GALATERI, C.
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 GATTI, G.
 GERMANI, Adriana
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 JAPPELLI, Janna

JURINA, L.
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 LOJELO, L.
 LUONGO, E.
 MARAZIO, A.
 MARCHETTI, S.
 MARSAN, P.
 MARTINETTI, S.
 MASCARDI, C.
 MASCARDI, Adalberto
 MAUGERI, M.
 MAZZAI, P.
 MONGILARDI, E.
 NOVA, R.
 OTTAVIANI, M.
 PASQUALINI, E.
 PICCIONE, M.
 PUGLIESE, A.
 RIBACCHI, R.
 RICCIONI, R.
 ROBOTTI, F.
 ROBOTTI, Carmen
 ROSSI, S.
 ROSSI, Lea
 RUBINO, D.
 RUBINO, Adele
 SABINI, G.
 SANTORO, V.M.
 SAPIO, G.
 SAPIO, Mega Licia
 SCIOTTO, M.
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 SEMBENELLI, P.
 SIGOT, F.
 SIGOT, Mrs.
 SORANZO, M.
 TANCREDI, G.
 TORNAGHI, R.
 VENTURA, P.
 VIGGIANI, C.
 VOLPE, V.
 VOLPE, Vittoria
 WOLF, E.
 WOLF, Federia .

JAPAN / JAPON

ABE, N.
 ABOSHI, H.
 ADACHI, K.
 ADACHI, Tazuko
 ADACHI, T.
 AKAGI, T.
 AMANOKRA, H.
 ANBIRU, T.
 ANDO, H.
 ARATANI, J.
 ASAKA, A.
 ASAKA, Mie
 CAKU, S.
 ENAMI, A.
 ENDO, J.
 FUDO, R.
 FUJITA, H.
 FUJITA, K.
 FUKAGAWA, R.
 FUKUDA, M.
 FUKUDA, N.
 FUKUDA, Y.
 FUKUOKA, M.
 FUKUOKA, Kimiko
 FUKUYA, T.
 FUKUZUMI, A.

FUTATSUKAWA, K.

FUYUKI, M.

HADA, M.

HANZAWA, H.

HARYU, K.

HARYU, Toshi

HASHIMOTO, T.

HAYASHI, K.

HAYASHI, S.

HAYASHI, Toshiko

HIRABAYASHI, H.

HIRAYAMA, H.

HISATAKE, M.

HOSOISAWA, Y.

IKEDA, T.

IMAMURA, Y.

IMANO, M.

INOUE, H.

ISHIDA, M.

ISHIDA, Y.

ISHIGAKI, H.

ISHIHARA, K.

ISHIKAWA, T.

ISHIMARA, K.

ISODA, S.

ITO, N.

ITO, T.

ITOH, M.

IWAI, K.

IWAKASI, Y.

IYAMA, H.

KADOWAKI, K.

KAI, K.

KANARI, T.

KANAZASHI, M.

KANBE, S.

KANENAWA, Y.

KANI, M.

KARUBE, D.

KATO, M.

KATO, Y.

KAWABATA, K.

KAWAMURA, A.

KAWAMURA, M.

KAWASAKI, H.

KIMURA, T.

KOBAYASHI, Y.

KOKUSHO, T.

KONDO, T.

KONO, I.

KONO, N.

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KOTODA, K.

KUBO, H.

KUMAGAI, M.

KUNO, G.

KUNO, Yoko

KURIHARA, H.

MAKIHARA, Y.

MASAKI, N.

MASUDA, E.

MATSUI, T.

MATSUMOTO, T.

MATSUO, M.

MATSUOKA, H.

MAZAKI, M.

MIKASA, M.

MIKI, G.

MIKI, Miyoko

MIURA, K.

MIYASHITA, T.

MIZOBUCHI, A.

MIZUTANI, Y.

MIZUTANI, Mrs.

MOCHIZUKI, A.

MORI, H.

MORI, Mrs.

MORI, K.

MORI, Y.

MORITA, Y.

MORIYA, K.

MURATA, S.

MUROMACHI, T.

NAGASAKI, Y.

NAKABORI, K.

NAKAI, T.

NAKAJIMA, H.

NAKAJIN, T.

NAKAMURA, J-I.

NAKAMURA, K.

NAKAMURA, T.

NAKASE, A.

NAKAZAWA, A.

NAKAZAWA, Yohko

NOJIRI, A.

NOJURA, M.

NORITAKE, K.

OAKU, S.

OGAWA, S.

OHYA, S.

OIKAWA, H.

OKA, F.

OKA, Keiko

OKAMOTO, A.

OKAZAKI, T.

OKUSA, S.

OMAKI, S.

ONE, Y.

ONE, Kinuyo

ONISHI, T.

OZAKI, E.

OZAKI, M.

OZAWA, Y.

SAITO, K.

SAITO, S.

SAKAI, K.

SAKATA, F.

SATAKE, M.

SEKIGUCHI, H.

SHIBATA, T.

SHIBATA, Emi

SHIBAZAKI, M.

SHIBUYA, H.

SHIBUYA, Masako

SHINKUMA, S.

SUGIMURA, Y.

SUZUKI, K.

SUZUKI, Y.

TAKADA, N.

TAKAGI, N.

TAKAIWA, M.

TAKANO, A.

TAKEHIKO, O.

TAKEMURA, C.

TANAKA, R.

TANAKA, Y.

TANIMOTO, K.

TANIMOTO, M.

TANIMOTO, Ikuko

TATSUMI, K.

TERASHI, M.

TERASHI, Shoko

TSUCHIYA, H.

TSUNETOMI, T.

TSUSHIMA, M.

UCHIYAMA, K.

UEKI, Y.

UESHITA, K.

UMEBAYASHI, S.

UNO, T.

UTO, K.

WATANABE, H.

WATANABE, S.

WATANABE, T.

WATANABE, Y.

WATARI, Y.

YAMADA, K.

YAMAGATA, K.

YAMAGATA, Michiko

YAMAGUCHI, T.

YAMAKAWA, M.

YAMAMOTO, J.

YAMAMOTO, K.

YAMANOUCHI, T.

YAMASHITA, S.

YAMAZAKI, I.

YASUDA, S.

YASUHARA, T.

YOSHIDA, Y.

YOSHIKUNI, H.

YOSHIMI, Y.

MEXICO / MEXICO

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AGUIRRE, L.M.

AGUIRRE, Mrs.

ALFONSO, R.

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CAMPOS, J.

CASALES, V.

CORDOVA, M.A.

DIAZ-RODROGUEZ, A.

ELLSTEIN, A.

FIGUEROA-VEGA, G.

FLORES, J.

GIRAULT, P.

GONZALES, M.

GUILLERMO, Q.

HANELL, J.

JUAREZ-BADILLO, E.

LOPEZ, H.

LOPEZ, R.

LOPEZ, Angelina

MA ELIDA, G.

MARSAL, R.J.

MOJQUEDA, A.

MORENO, A.

MORENO, Mrs.

MORENO, G.

MOYENO, E.

MOYENO, Alma

OLIVA, C.

OROZCO, R.

RODRIGUEZ, L.B.

RODRIGUEZ, Mrs.

SANTOYO, E.

SPRINGALL, G.

SPRINGALL, Mrs.

SPRINGALL, Miss

VEGA,

VIEITEZ, L.

VIEITEZ, Mrs.

WENCESLAO, H.

ZAMORA M., F.

ZEEVAERT, L.

DE ZEEVAERT, Celia A.

NETHERLANDS / PAYS-BAS

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COLENBRANDER, W.

DE JAGER, W.F.J.

DE LEEUW, E.H.

DE QUELERY, L.

DE RUITER, J.

DE RUITER, Mrs.

DE WIT, J.

DEN HOEDT, G.

DIJK, R.W.

FLORIAN, G.Z.

FLORIAN, Maria

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HEIJMEN, W.J.

HOGERVORST, J.R.

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MAZURE, P.

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MULDERS, Mrs.

NELISSEN, H.

NIEUWENHUIS, J.

NIEUWENHUIS, Helene

REGTULJT, T.

REGTULJT, Mrs.

RISSEEUW, P.

SELLMELJER, H.

VAN BREDERODE, P.

VAN DER BERG, C.

VAN DER VEEN, C.

VAN KOOPEREN, C.H.

VAN OIRSCHOT, A.

VAN WEELE, A.F.

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VIERGEVER, M.A.

VOSKAMP, W.

ZOOMER, R.

ZUIDBERG, H.

NEW ZEALAND / NOUVELLE ZELANDE

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PENDER, M.

TAYLOR, P.W.

TAYLOR, Sally

NIGERIA / NIGERIA

ADEGOKE-ANTHONY, C.W.

ADESUNLOYE, M.

AJAYI, L.

AJAYI, Mrs. T.A.

ASSEEZ, L.O.

FASEHUN, E.O.O.

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MADEDOR, A.O.

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NORWAY / NORVEGE

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 ANDERSEN, K.H.
 KVAERNER, Eva
 ANDREASSON, B.
 ANDRESEN, A.
 BERRE, T.
 BERINES, J.
 BERTINES, Berit
 BRUUSGAARD, H.
 DAHL, T.
 DAHLBERG, R.
 EDGERS, L.
 EGGESTAD, Å.
 EIDE, O.
 EIDE, Solveig
 ELLINGSEN, P.
 ESPEDAL, K.
 FINBORUD, B.
 FINBORUD, Aud
 FINBORUD, L.I.
 FOSSEN, T.
 FOSSEN, A.
 FRIIS, J.
 FRYDENLUND, T.E.
 GREGERSEN, O.
 HÖEG, K.
 HOLM, O.S.
 JANBU, N.
 JANBU, Gerd
 JOHANSEN, T.
 KARLSRUD, K.
 KARLSRUD, Mrs.
 KJEKSTAD, O.
 KJESBU, E.E.
 HASSELBLAD, Grethe
 LEAHY, D.
 LEIRVIK, K.
 LEIRVIK, Inger-Mari
 LÖKEN, T.
 MADSHUS, P.A.
 MOE, D.
 MOE, Eva.
 MOEN, T.I.
 MOWINCKEL, A.
 NORDAL, S.
 NOWACKI, E.H.F.
 ØISETH, T.
 ØISETH, U.
 ØSTLID, H.
 ØSTLID, Kari
 ØZUDOGU, K.
 RANNESTAD, Å.
 RANNESTAD, Marit
 ROBSRUD, A.
 RYGG, N.
 SANDE, A.
 SCHJETTE, K.
 SENNESET, K.
 SENNESET, Inger Sofie
 SKOTHEIM, A.
 STENHAMAR, P.
 STORDAL, A.
 SVANÖ, G.
 THORN, E.
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 VALSTAD, T.

PARAGUAY / PARAGUAYA

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POLAND / POLOGNE

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 PININSKA, Joanna
 SKARZYNSKA, Krystyna
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PORTUGAL / PORTUGAL

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 VELOSO, Mrs.

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Republic of
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SOUTH EAST ASIA /
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 CHANG, T-C.
 CHAO, C-S.
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 CHIANG, Y.C.
 CHIN, F.K.
 WONG SWEE YONG, Mrs.
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 CHUAY, H-Y.
 COOMARASAMY, A.
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 COX, Rosalind
 CUENCA, E.
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 HOESNI, H.
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 LEE, T-C.
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 LOVEGROVE, Mrs.
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 MALONE, Mrs.
 MOH, Z-C.
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 NAWATI, Mrs.
 OHTA, H.
 OTHMAN, K.
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SIDJI, D.S.
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 SOEMARGA, J.B.
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 SUNARYANTO, P.J.
 SURYA EMBING, K.
 TAI, C.C.
 TAN, S.B.
 TAN KOH YIN,
 TESASEN, J.
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 WIDAYATAMOKO, Kusamawati
 WIGNOSAJONO, S.
 WIGNOSAJONO, Mrs.
 WONG, J.P.K.
 YANG, J-S.
 YAMASHITA, T.
 YAMASHITA, Carol
 YAO, H-L.
 YAYOEN, W.
 YUSUF, Z.
 ZANUSSI, F.X.

SPAIN / ESPAGNE

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 ALONSO, E.
 CASANOVAS, J.S.
 DE LA VEGA, C.
 JUNQUERA PRENDES, Elvira
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 FERNANDEZ-RENAU, L.
 GARCIA-PARDO, G.
 JUSTO, L.L.
 LORENTE DE NO, C.
 CASANOVA, Pilar
 MARSAL, R.
 MARSAL, Reina Pilar
 MONTE, J.L.
 MUZAS, F.
 OTEO, C.S.
 PEREZ, A.
 PEREZ, Mrs.
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 ROMANA, M.
 ROMERO, E.
 SALAS, J.A.J.
 SERRANO, A.
 SORIANO, A.
 SORIANO, Mrs.
 VIDAL, M.

SWEDEN / SUEDE

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 AHLBERG, Ann-Christine
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 ALTE, B.
 ANDERSSON, C.A.
 ANDERSSON, Ö.
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 BELFRAGE, J.
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 KILNES, L.
 KJELLBERG, T.
 KJELLBERG, Siv
 KNUTSSON, S.
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 LINDSKOG, Ellen
 LINDSKOG, L.
 LINDSKOG, Berit
 LÖFLING, P.
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 LUNDAHL, Anneli
 LUNDSTRÖM, R.B.
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 MOLIN, J.
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 OLOFSSON, S.
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 RECORDON, Mrs.
 STUDER, J.
 THUT, A.
 VOLLENWEIDER, U.
 VOLLENWEIDER, Emmy
 VON MATT, U.

SYRIA / SYRIE

KAYAAL, K.
 KAYAAL, Mrs.
 MAWLAWI, F.
 TAKRITI, N.
 TOUTOUNGI, A.

TURKEY / TURQUIE

DADASBILGE, K.
 DADASBILGE, Duygu
 ERGUVANLI, A.
 GRANTAY, B.
 MUT, T.
 MUT, Kristin
 TOGROL, E.

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 BIDDLE, Christine
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 BODEN, J.B.
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 BUTTERFIELD, R.
 CASHMAN, P.

CHANDLER, R.
 CHANDLER, R.J.
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 CHARLES, A.
 CHARLES, K.M.
 CHILD, K.
 COLE, K.
 COOMBER, D.
 DIKRAN, S.
 DYSON, S.
 ELLIS, I.
 ELLIS, Mrs.
 ENGLAND, B.
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 FUCHSBERGER, Mrs.
 GARRETT, C.
 GARRETT, Virginia Ann
 GEDDES, J.D.
 GIBSON, R.E.
 GOLDER, H. (Channel Islands)
 GREENWOOD, D.A.
 GREGORY, B.J.
 HALL, D.
 HALL, Sheila
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 HIGHT, D.W.
 HOLT, J.B.
 HOLT, A.S.
 HOOPER, J.
 HOULSBY, G.T.
 HUTCHINSON, J.N.
 HYDE, A.
 HYDE, R.
 HYDE, Mrs.
 JEFFERIS, S.
 JEWELL, R.A.
 JONES, C.
 JONES, D.P.
 JONES, E.
 JONES, Mrs.
 KEEBLE, D.H.L.
 KEEBLE, Joan
 KING, I.J.
 KING, Rosamond
 KIRKPATRICK, W.M.
 KURE, N.
 LAKE, L.M.
 LEACH, B.A.
 LITTLE, A.L.
 LORD, A.
 MCGROWN, A.
 MACWILLIAM, R.
 MAIR, R.
 MARCIO S.S., A.
 MEIGH, A.
 MEIGH, J.
 MILITITSKY, J.
 MOHAMAD-SHERIDAN, A.
 MOSELEY, M.
 MYLES, B.
 NASH, Mel
 NASH, David
 NEEDHAM, A.
 NIXON, I.K.
 NIXON, H.E.
 O'REILLY, M.
 ONITSUKA, K.
 PAINE, N.
 PAINE, Mrs.
 PARRY, R.
 PENMAN, A.D.M.
 PENMAN, J.E.
 POTTS, D.

QUARRELL, S.
 QUARRELL, Mrs.
 RAINBOW, K.
 RANDOLPH, M.F.
 RAYBOULD, D.
 RIGDEN, W.J.
 ROBINSHAW, A.D.
 SANDBERG, R.
 SANDBERG, Eivor
 SANDS, M.
 SAYNOR, F.
 SCHOFIELD, A.
 SEMPLE, R.
 SIMONS, N.
 SIMONS, Margaretha
 SIMPSON, B.
 SLIWINSKI, Z.J.
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 SUTHERLAND, H.B.
 SUTHERLAND, Sheila D.
 SWAIN, A.
 SWEENEY, M.
 SYMONS, I.
 TATE, A.
 TAYLOR, G.
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 VAUGHAN, P.R.
 VICKERY, K.W.
 WAKELING, T.R.M.
 WALSH, F.
 WARD, W.H.
 WAREHAM, B.
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 BELL, Sally
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 BENEDICT, Agnes
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 BERLOGAR, Susan
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 BURKE, Agnes J.

BURTON, R.
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 BUSH, E.
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 CAVALLIN, J.
 KELLY, Margaret
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 CHAN, Diana Ming
 CHANG, Y.C. G.
 CHAPMAN, R.
 CHAPMAN, Barbara
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 CLEMENCE, S.
 CLEMENCE, Carolyn
 CLEMENTE, Jr., F.M.
 CLOUGH, W.
 CRANDALL, L.
 CRANDALL, Eileen
 D'APPOLONIA, E.
 D'APPOLONIA, Tina
 DAVIDSSON, J.
 DAVIS, H.E.
 DAVIS, Elizabeth
 DENBY, G.
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 DOUGHERTY, J.
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 DRNEVICH, Roxanne
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 ENKEBOLL, June
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 ESRIG, Mrs.
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 FOCHT III, J.A.
 FORREST, J.
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 GOEL, C.
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 HELD, Jessica
 HERVERT, G.
 HERVERT, Mrs.
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 KASTMAN, Diane
 KILKER, W.E.
 KILKER, Jean
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 LACY, H.S.

LEONARD, R.
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 LEVINSON, Eloise
 LEWIN, D.V.
 LEWIS, K.
 LOUGHNEY, R.
 LOUGHNEY, Mary
 LUNDGREN, R.
 LUNDGREN, Kay
 LYSMER, J.
 LYSMER, Dolores
 MAKESH-CHANDRA, G.
 MAHONEY, M.
 MAHONEY, Judy
 MAKDISSY, T.
 MALEK, A.
 MANN, G.
 MANN, Edla
 MARTIN, C.K.
 MARTIN, Joann
 MARTIN, G.
 MARTIN, Mrs.
 MCKITTRICK, D.
 MCWEE, J.
 MCWEE, Loyce
 MESRI, G.
 MESRI, Lorna
 MINDESS, M.
 MINDESS, Mrs.
 MITCHELL, J.K.
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 MOORE, R.F.
 MOORE, Margaret L.
 MORSE, R.
 MUNFAKH, G.
 MUNFAKH, J.L.
 MURPHY, W.
 MURPHY, Eunice
 NELSON, J.
 NELSON, Darlene
 NEYER, J.
 NEYER, Judy
 NICHOLSON, A.
 NICHOLSON, Florence
 NICHOLSON, P.
 OKCUOGLU, C.
 OKCUOGLU, Judy
 OLSON, G.
 OLSON, R.
 ONALP, A.
 ONITSUKA, K.
 ORTIZ, C.
 ORTIZ, Mrs.
 OSTERBERG, J.
 OSTERBERG, Ruth
 PARTOS, A.
 PECK, R.B.
 PEDERSON, L.
 PEREZ, J.
 PHUKAN, A.
 PRAKASH, S.
 PRASZKER, M.
 PRASZKER, Flora
 PYKE, R.
 REYNOLDS, G.
 REYNOLDS, Kathleen K.
 RIFAT, F.
 RIFAT, Mrs.
 RINNE, E.
 RINNE, Maureen
 ROSS, A.
 ROSS, J.
 RUTHERFORD, J.

SAADA, A.
 SAADA, Nancy
 SAXENA, S.
 SCHMERTMANN, J.
 SCHMERTMANN, Pauline
 SCHMIDT, B.
 SCHNABEL, H.
 SCHNABEL, Hank
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 SCHROEDER, Twila R.
 SCHUSTER, R.L.
 SCOVILLE, J.
 SCOVILLE, Mrs.
 SEED, H.
 SELIG, E.
 SELIG, Rae
 SHANNON, W.
 SHANNON, Ellen
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 SOWERS, Frances
 SQUIER, L.R.
 STOKOE, K.
 STORCH, H.
 STORCH, Carmel
 TENG, W.C.
 TENG, Eleanor
 THOMSEN, B.
 TROMELL, D.
 TUMAY, M.
 VANMARCKE, E.
 VESIC, A.S.
 SEDMAK VESIC, Milena
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 WERBLIN, D.
 WHITMAN, R.
 WHITMAN, Elizabeth
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 KORZH,
 MALYSHEV, M.V.
 MIKHAILOV,
 MIKHEEV, V.V.
 MUSTAFAEV, A.A.
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 TER-MARTIROSYAN, Z.G.
 TROFIMENKOV, Y.G.
 VUTSEL, V.I.

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DESKOVIC, Z.
DJRODJEVIC, M.
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LIKAR, Jacob
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GRUJANAC, A.
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IVAN, G.
JOZO, R.
KOPRIVEC,
KOVACIC, D.
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MILADINOV,
MILOVIC, D.
NONVEILLER, E.
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SOVINEC, I.
STAMBOLIC, S.
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STOJADINOVIC, R.
STOJADINOVIC, Svetlana
STOJANOVIC, S.
STRUCL,
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SCHOLTES, J-P.

SAUDI ARABIA /
ARABIE SAUDITE

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ALHANOSH, Y.
BADER, T.
BAKHASWAIN, S.
FATANI, M.
MAKDISI, F.
MANA, A.I.
MANSOURI, T.
WILTSIE, E.

TUNISIA / TUNISIE

AMMAR, A.
SUKANY, T.

Program

Programme

EXECUTIVE COMMITTEE

FRIDAY, JUNE 12

1st meeting, Sheraton hotel, Stockholm.

Reception given by the X.ICSMFE Organizing Committee at the Royal Swedish Automobile Club.

SATURDAY, JUNE 13

2nd meeting, Sheraton hotel, Stockholm.

WEDNESDAY, JUNE 17

3rd meeting, "Mässan" Conference Center, Stockholm International Fairs.

OPENING CEREMONY

MONDAY JUNE 15

Official opening by H.M. King Carl XVI Gustaf.

Welcome address by Professor Sven Hansbo, Chairman, Organizing Committee of X.ICSMFE.

Music by the Stockholm Ensemble.

Presidential address by Professor Masami Fukuoka, President of ISSMFE.

Address by Professor Ulf Lindblom, Secretary General of X.ICSMFE.

Music by the Stockholm Ensemble.

TECHNICAL PROGRAM

MONDAY, JUNE 15

SESSION 1

PREDICTION AND PERFORMANCE

Chairman:	Dr. E. D'Appolonia, USA
Co-Chairman:	Dr. P. Londe, France
General Reporter:	Dr. K. Hoeg, Norway
Co-Reporter:	Prof. A. Nakase, Japan
Technical Secretary:	Mr. L. Olsson, Sweden
Panelists:	Prof. B.E. De Beer, Belgium
	Dr. K. Biernatowski, Poland
	Mr. E.H. de Leeuw, The Netherlands
	Mr. V. Milligan, Canada
	Prof. E.H. VanMarcke, USA
	Prof. M. Jamiolkowski, Italy

COMITE EXECUTIF

VENDREDI, 12 JUIN

Le 1er meeting, l'hôtel Sheraton, Stockholm.

Reception offerte par le Comité d'Organisation de X.ICSMFE à l'Automobile Club Royal de Suède.

SAMEDI, 13 JUIN

Le 2e meeting, l'hôtel Sheraton, Stockholm

MERCREDI, 17 JUIN

Le 3e meeting, Centre de la Foire Internationale de Stockholm (Mässan).

CEREMONIE D'OUVERTURE

LUNDI 15 JUIN

Ouverture officielle par Sa Majesté Le Roi Carl XVI Gustaf.

Allocution de bienvenue par le Professeur Sven Hansbo, Président du Comité d'Organisation.

Entr'acte musical, par l'Ensemble de Stockholm.

Discours du Président, Professeur Masami Fukuoka, Président de la Société Internationale.

Allocution du Professeur Ulf Lindblom, Secrétaire Général du Xème Congrès International.

Musique par l'Ensemble de Stockholm.

PROGRAMME DES SESSIONS TECHNIQUES

LUNDI, 15 JUIN

SESSION 1

PREVISIONS ET CONSTATATIONS

Président:	Dr. E. D'Appolonia, Etats-Unis
Vice-Président:	Dr. P. Londe, France
Rapporteur Général:	Dr. K. Hoeg, Norvège
Co-Rapporteur:	Prof. A. Nakase, Japon
Secrétaire Technique:	M. L. Olsson, Suède
Membres du panel:	Prof. B.E. De Beer, Belgique
	Dr. K. Biernatowski, Pologne
	M. E.H. de Leeuw, Pays-Bas
	M. V. Milligan, Canada,
	Prof. E.H. VanMarcke, Etats-Unis
	Prof. M. Jamiolkowski, Italie

- Introduction - E. D'Appolonia
- General report I - K. Hoeg
- General report II - A. Nakase
- Themes for discussion - E. D'Appolonia
- Introduction, themes - P. Londe
- Presentation by panelists
- Discussion
- Summing up of discussion - P. Londe
- Closing remarks - E. D'Appolonia

SESSION 2

TUNNELLING IN SOILS

Chairman: Prof. R.B. Peck, USA
 Co-Chairman: Prof. W. Wittke, FRG
 General Reporter: Dr. W.H. Ward, UK
 Co-Reporter: Mr. M.J. Pender, New Zealand
 Technical Secretary: Dr. H. Stille, Sweden
 Panelists: Mr. G. Aas, Norway
 Dr. K. Fujita, Japan
 Prof. Z. Gergowicz, Poland
 Prof. B. Ladanyi, Canada
 Dr. D.J. Henkel, U.K.

- Introduction - R.B. Peck, W. Wittke
- General Report I - W.H. Ward
- General Report II - M.J. Pender
- Introduction of discussion - R.B. Peck
- General effects of different excavation and construction techniques - K. Fujita
- Special problems of shallow urban tunnels - Z. Gergowicz, W. Wittke
- Case records of tunnel constructions - B. Ladanyi, G. Aas, D.J. Henkel, E. Tamez
- Closing remarks - R.B. Peck

SESSION 3

GROUNDWATER AND SEEPAGE PROBLEMS

Chairman: Prof. S. Hansbo, Sweden
 Co-Chairman: Prof. A. Verruijt, The Netherlands
 General Reporter: Dr. C. Louis, France
 Technical Secretary: Mr. P-E. Bengtsson, Sweden
 Panelists: Dr. J.A.B. Chaves, Portugal
 Prof. D.G. Fredlund, Canada
 Dr. K. Günther, FRG
 Prof. M.E. Harr, USA
 Prof. J. Skopek, Czechoslovakia
 Dr. A. Danchiv, Roumania

- Introduction - S. Hansbo
- State-of-the-Art Report - C. Louis
- General report - C. Louis
- Panel discussion - S. Hansbo
- Introduction - A. Verruijt
- Discussion (prepared) - A. Verruijt
- Discussion (prepared and free) - A. Verruijt
- Summing up of discussion - S. Hansbo

TUESDAY, JUNE 16

SPECIAL LECTURE

THIRTY-FIVE YEARS OF SOIL TESTING

Lecturer: Prof. A.W. Bishop, U.K.

- Introduction - E. D'Appolonia
- Rapport général I - K. Hoeg
- Rapport général II - A. Nakase
- Thèmes pour la discussion - E. D'Appolonia
- Introduction, thèmes de la discussion - P. Londe
- Exposés des membres du panel
- Discussion
- Résumé de la discussion - P. Londe
- Remarques de clôture - E. D'Appolonia

SESSION 2

CREUSEMENT DES TUNNELS DANS LES SOLS

Président: Prof. R.B. Peck, Etats-Unis
 Vice-Président: Prof. W. Wittke, RFA
 Rapporteur Général: Dr. W.H. Ward, Royaume-Uni
 Co-Rapporteur: M. M.J. Pender, Nouvelle Zelande
 Secrétaire Technique: Dr. H. Stille, Suède
 Membres du panel: M. G. Aas, Norvège
 Prof. Dr. K. Fujita, Japon
 Prof. Z. Gergowicz, Pologne
 Prof. B. Ladanyi, Canada
 Dr. D.J. Henkel, Royaume-Uni

- Introduction - R.B. Peck, W. Wittke
- Rapport général I - W.H. Ward
- Rapport général II - M.J. Pender
- Introduction à la discussion - R.B. Peck
- Effets généraux de différentes techniques d'excavation et de construction - K. Fujita
- Problèmes spéciaux posés par les tunnels urbains peu profonds - Z. Gergowicz, W. Wittke
- Cas pratiques de constructions de tunnels - B. Ladanyi, G. Aas, D.J. Henkel, E. Tamez
- Remarques de clôture - R.B. Peck

SESSION 3

EAU SOUTERRAINE ET PROBLEMES D'INFILTRATION

Président: Prof. S. Hansbo, Suède
 Vice-Président: Prof. A. Verruijt, Pays-Bas
 Rapporteur Général: Dr. C. Louis, France
 Secrétaire Technique: M. P-E. Bengtsson, Suède
 Membres du panel: Dr. J.A.B. Chaves, Portugal
 Prof. D.G. Fredlund, Canada
 Dr. K. Günther, RFA
 Prof. M.E. Harr, Etats-Unis
 Prof. J. Skopek, Tchécoslovaquie
 Dr. A. Danchiv, Roumanie

- Introduction - S. Hansbo
- Rapport sur l'état des connaissances - C. Louis
- Rapport général - C. Louis
- Discussions par les membres du panel - S. Hansbo
- Introduction - A. Verruijt
- Discussion préparée - A. Verruijt
- Discussion (préparée et libre) - A. Verruijt
- Résumé de la discussion - S. Hansbo

MARDI 16 JUIN

CONFERENCE SPECIALE

TRENTE-CINQ ANNEES D'ESSAIS DE SOLS

Conférencier: Prof. A.W. Bishop, Royaume-Uni

SESSION 4

LABORATORY TESTING

Chairman: Prof. J.G. Zeitlen, Israel
General Reporter: Mr. P. v. Soos, FRG
Co-Reporter: Dr. G. Sällfors, Sweden
Technical Secretary: Dr. G. Sällfors, Sweden
Panelists: Prof. A.S. Balasubramaniam, South East Asia
Dr. H.M. Jacobsen, Denmark
Prof. T. Ramamurthy, India
Prof. C.P. Wroth, U.K.
Prof. P.W. Taylor, New Zealand
Prof. R.E. Olson, USA

- Introduction - G. Zeitlen
- General Report - P. v. Soos, G. Sällfors
- Panel discussion - G. Zeitlen
- Discussion (prepared)
- General discussion
- Summing up of discussion - G. Zeitlen

SESSION 5

SOIL/STRUCTURE INTERACTION

Chairman: Prof. P. Habib, France
General Reporter: Prof. H.G. Poulos, Australia
Co-Reporter: Prof. C. Viggiani, Italy
Technical Secretary: Mr. E. Sellgren, Sweden
Panelists: Dr. M. Bozozuk, Canada
Prof. A. Diaz-Rodriguez, Mexico

- Introduction - P. Habib
- General report - H.G. Poulos
- Panel discussion - P. Habib
- Discussions by panelists and floor discussion
- General discussion
- Summing up of discussion and closing remarks - P. Habib

SESSION 6

ENVIRONMENTAL CONTROL (INCL. WASTE MATERIALS)

Chairman: Dr. Za-Chieh Moh, South East Asia
Co-Chairman: Mr. B.A. Kantey, South Africa
General Reporter: Dr. P. Sembenelli, Italy
Co-Reporter: Prof. K. Ueshita, Japan
Technical Secretary: Dr. J. Hartlén, Sweden
Panelists: Prof. G.E. Blight, South Africa
Dr. E.W. Brand, South East Asia
Prof. P.L. Ivanov, USSR
Prof. R.M. Quigley, Canada
Prof. I. Sovinc, Yugoslavia

- Introduction - Za-Chieh Moh
- State-of-the-Art Report and General Report - P. Sembenelli, K. Ueshita
- Introduction to discussions - B.A. Kantey
- Panel discussion
- Prepared and free discussion
- Summing up of discussion - B.A. Kantey
- Closing of session - Za-Chieh Moh

SESSION 4

ESSAIS EN LABORATOIRE

Président: Prof. J.G. Zeitlen, Israël
Rapporteur Général: Mr. P. v. Soos, RFA
Co-Rapporteur: Dr. G. Sällfors, Suède
Secrétaire Technique: Dr. G. Sällfors, Suède
Membres du panel: Prof. A.S. Balasubramaniam, Asie du Sud-Est
Dr. H.M. Jacobsen, Danemark
Prof. T. Ramamurthy, Inde
Prof. C.P. Wroth, Royaume-Uni
Prof. P.W. Taylor, Nouvelle Zélande
Prof. R.E. Olson, Etats-Unis

- Introduction - G. Zeitlen
- Rapport général - P. v. Soos, G. Sällfors
- Discussions par les membres du panel - G. Zeitlen
- Discussion préparée
- Discussion générale
- Résumé de la discussion - G. Zeitlen

SESSION 5

INTERACTION SOL-STRUCTURE

Président: Prof. P. Habib, France
Rapporteur Général: Prof. H.G. Poulos, Australie
Co-Rapporteur: Prof. C. Viggiani, Italie
Secrétaire Technique: M. E. Sellgren, Suède
Membres du panel: Dr. M. Bozozuk, Canada
Prof. A. Diaz-Rodriguez, Mexico

- Introduction - P. Habib
- Rapport général - H.G. Poulos
- Discussions par les membres du panel - P. Habib
- Discussions par les membres du panel et discussion dans la salle
- Discussion générale
- Résumé de la discussion et remarques de clôture - P. Habib

SESSION 6

PROBLEMES D'ENVIRONNEMENT (Y COMPRIS STOCKAGE DES DECHETS)

Président: Dr. Za-Chieh Moh, Asie du Sud-Est
Vice-Président: M. B.A. Kantey, Afrique du Sud
Rapporteur Général: Dr. P. Sembenelli, Italie
Co-Rapporteur: Prof. K. Ueshita, Japon
Secrétaire Technique: Dr. J. Hartlén, Suède
Membres du panel: Prof. G.E. Blight, Afrique du Sud
Dr. E.W. Brand, Asie du Sud-Est
Prof. P.L. Ivanov, URSS
Prof. R.M. Quigley, Canada
Prof. I. Sovinc, Yougoslavie

- Introduction - Za-Chieh Moh
- Rapport sur l'état des connaissances et Rapport Général - P. Sembenelli, K. Ueshita
- Introduction des discussions - B.A. Kantey
- Discussion par les membres du panel
- Discussion invité et libre
- Résumé de la discussion - B.A. Kantey
- Clôture de la session - Za-Chieh Moh

WEDNESDAY, JUNE 17

LECTURES

LECTURE 1

SCANDINAVIAN ENGINEERING GEOLOGY

Lecturer: Prof. R. Pusch, Sweden

LECTURE 2

SWEDISH GEOTECHNICAL DEVELOPMENT

Lecturer: Dr. J. Hartlén, Sweden

LECTURE 3

THE SAVING OF THE OLD TOWN OF STOCKHOLM

Lecturers: Mr. H. Bohm, Mr. S. Hultsjö, Sweden

TECHNICAL VISITS

All visits were free for registered delegates and accompanying persons.

BRIDGE AND TUNNEL CONSTRUCTION FOR CITY MOTORWAY, SÖDERLEDEN

Driven and bored piles, raft foundation with special settlement monitoring program, groundwater and stability problems in connection with rock tunnels.

BLASTING OF ROCK TUNNEL FOR UNDERGROUND RAILWAY

Careful blasting, large tunnel widths with shallow rock cover, sealing measures in connections with groundwater leakage, infiltration tunnel, tour by underground railway.

INFILTRATION TUNNEL AND "JET PILE" METHOD

Control of groundwater level in soft clay deposit by water infiltration from rock tunnel. Test site for demonstration of "Jet Pile" method in clay and till.

ROYAL INSTITUTE OF TECHNOLOGY (KTH) AND GEOTECHNICAL FIELD DEMONSTRATION

Presentation of research projects in soil mechanics, rock mechanics and soil dynamics. Demonstration of Swedish field methods.

CLAY STABILIZATION METHODS AND PILE FOUNDATION FOR MOTORWAY E4

Field test program for evaluation of stabilization methods (driven sand drains, plastic drains, lime columns). Installation of driven pre-cast concrete piles.

MANUFACTURE AND INSTALLATION OF PRE-CAST CONCRETE PILES - UPPSALA

Visit to a factory producing pre-cast concrete piles. Demonstration of Swedish piling technique at a motorway bridge construction site.

MERCREDI 17 JUIN

CONFERENCES

CONFERENCE 1

LA GEOLOGIE DE L'INGENIEUR EN SCANDINAVIE

Conférencier: Prof. R. Pusch, Suède

CONFERENCE 2

LE DEVELOPPEMENT DE LA GEOTECHNIQUE EN SUEDE

Conférencier: Dr. J. Hartlén, Suède

CONFERENCE 3

PRESERVATION DE LA VIEILLE VILLE DE STOCKHOLM

Conférenciers: M. H. Bohm, M. S. Hultsjö, Suède

VISITES TECHNIQUES

Toutes les visites étaient libres pour les participants inscrits et pour les personnes accompagnantes.

A PONT ET TUNNEL EN CONSTRUCTION POUR UNE AUTOROUTE URBAINE, SÖDERLEDEN

Pieux battus et forés, fondation sur radier avec programme spécial de contrôle des tassements, problème de stabilité et de nappe liés à un tunnel dans le rocher.

B PERCEMENT A L'AIDE D'EXPLOSIFS D'UN TUNNEL FERROVIAIRE DANS LE ROCHER

Découpage soigné, tunnel de grande largeur avec une faible couverture de rocher, dispositifs d'étanchéité liés à des percolations de la nappe, tunnel pour infiltration, visite par chemin de fer souterrain.

C TUNNEL POUR INFILTRATION ET METHODE DE LANCAGE

Contrôle du niveau de la nappe dans une argile molle par infiltration d'eau à partir d'un tunnel dans le rocher. Site d'essai pour la démonstration d'une méthode de lancement dans des terrains argileux et morainiques.

D INSTITUT ROYAL DE TECHNOLOGIE (KTH) ET DEMONSTRATION D'ESSAIS GEOTECHNIQUES IN SITU

Présentation de projets de recherches en mécanique des sols, mécanique des roches et dynamique des sols. Démonstration de méthodes in situ utilisées en Suède.

E METHODES DE STABILISATION DE TERRAINS ARGILEUX ET FONDATIONS SUR PIEUX POUR L'AUTOROUTE E4

Programme d'essais in situ pour évaluer différentes méthodes de stabilisation (drains de sable par refoulement, drains plastiques, colonnes stabilisées à la chaux). Mise en place par battage de pieux préfabriqués en béton.

F FABRICATION ET MISE EN PLACE DE PIEUX PREFABRIQUES EN BETON - UPPSALA

Visite d'une centrale de préfabrication de pieux en béton. Démonstration des techniques suédoises en matière de pieux sur un site de construction d'un pont autoroutier.

PRESTRESSED CONCRETE BRIDGE ON PILE FOUNDATION - STRÄNGNÄS

Foundation of bridge abutments on pre-cast concrete piles and footings.

UNDERPINNING OF BUILDINGS IN THE OLD TOWN OF STOCKHOLM

In the Old Town of Stockholm many ancient buildings have been damaged owing to large settlements. Underpinning work was demonstrated as well as settlement monitoring techniques.

DAMAGE FROM SETTLEMENTS AT HUDDINGE CENTRE - SOIL STABILIZATION METHODS

Visit to buildings damaged by excessive settlements in soft clay. Demonstration of investigation methods and soil stabilization techniques (lime columns, pre-fabricated drains etc.)

ATLAS COPCO

Demonstration of modern soil and rock drilling equipment. Visit to test mine below the Atlas Copco factory.

EXTRA VISIT STABILATOR

1. Underpinning with steel core piles of an old building on Blasieholm, Stockholm.
2. A site with pre-cast piles. They were driven with a new type of hydraulic hammer. The performance of the hammer was studied with the aid of a case pile analyzer.

THURSDAY, JUNE 18

SPECIAL LECTURE

THE TETON DAM FAILURE - A RETROSPECTIVE REVIEW

Lecturer: Prof. H.B. Seed, USA

SESSION 7

SOIL EXPLORATION AND SAMPLING

Chairman: Prof. V.F.B. de Mello, Brazil
Co-Chairman: Prof. D. Mohan, India
General Reporter: Dr. H. Mori, Japan
Co-Reporter: Prof. G. Stefanoff, Bulgaria
Technical Secretary: Mr. U. Bergdahl, Sweden
Panelists: Mr. E. Alonso, Spain
Dr. A. Anagnostopoulos, Greece
Prof. M. Tamminen, Finland
Prof. F. Tavenas, Canada
Prof. A. Van Wambeke, Belgium
Mr. R.K. Bhandari, India

- Opening address - V.F.B. de Mello
- General report - H. Mori
- Address of the Chairman of the ISSMFE Sub-Committee - S.D. Wilson
- Address of selected technical questions - G. Stefanoff
- Introduction to the discussion - D. Mohan
- In-situ testing and deformation measurements - Panelists
- Quality (scatter) of soil data in relation to specific foundation problems - Panelists
- New techniques for soil sampling and penetration tests - Panelists
- Free discussions
- Summing up of the discussion and closing of the Session - V.F.B. de Mello

G PONT EN BETON PRECONTRAINTE FONDE SUR PIEUX - STRÄNGNÄS

Fondation de culées de pont sur semelles et pieux en béton préfabriqués.

H REPRISE EN SOUS-OEUVRE DE BÂTIMENTS DANS LA VIEILLE VILLE DE STOCKHOLM

De nombreux bâtiments anciens de la vieille ville de Stockholm ont été endommagés par suite de tassements importants. Des travaux de reprise en sous-oeuvre ont été présentés, ainsi que des techniques de contrôle des tassements.

I DEGATS DUS AUX TASSEMENTS AU CENTRE D'HUDDINGE - METHODES DE STABILISATION DU SOL

Visite de bâtiments endommagés par des tassements excessifs d'argile molle. Démonstration de méthodes de reconnaissance et de techniques de stabilisation du sol (colonnes, stabilisées à la chaux, drains plastiques etc)

K ATLAS COPCO

Démonstration de matériel moderne de sondage de sols et de roches. Visite d'une mine d'essai sous l'usine.

VISITE SUPPLEMENTAIRE

X STABILATOR

1. Reprise des efforts en sous-oeuvre avec des pieux en noyau acier d'un vieux édifice à Blasieholmen, Stockholm.
2. Un site avec pieux en béton préfabriqué, battu avec un nouvel type de mouton hydraulique. La conduite du mouton était étudié avec l'aide d'un "case pile analyzer".

JEUDI 18 JUIN

CONFERENCE SPECIALE

LA RUPTURE DU BARRAGE DE TETON - UN EXAMEN RETROSPECTIF

Conférencier: Prof H.B. Seed, Etats-Unis

SESSION 7

RECONNAISSANCE DU SOL ET PRISE D'ECHANTILLONS

Président: Prof. V.F.B. de Mello, Brésil
Vice-Président: Prof. D. Mohan, Inde
Rapporteur-Général: Dr. H. Mori, Japon
Co-Rapporteur: Prof. G. Stefanoff, Bulgarie
Secrétaire Technique: M. U. Bergdahl, Suède
Membres du panel: M. E. Alonso, Espagne
Dr. A. Anagnostopoulos, Grèce
Prof. M. Tamminen, Finlande
Prof. F. Tavenas, Canada
Prof. A. Van Wambeke, Belgique
M. R.K. Bhandari, Inde

- Discours d'ouverture - V.F.B. de Mello
- Rapport général - H. Mori
- Discours du Président du Sous-Comité de la SIMSTF - S.D. Wilson
- Discussion sur les questions techniques choisies - G. Stefanoff
- Introduction à la discussion - D. Mohan
- Essais in-situ et mesures des déformations - Membres du panel
- Valeur (dispersion) des données du sol pour des problèmes spécifiques de fondation - Membres du panel
- Techniques nouvelles de prise d'échantillons et d'essais de pénétration - Membres du panel
- Discussions libres - Auditoire
- Résumé de la discussion et clôture de la session - V.F.B. de Mello

SESSION 8

PILE FOUNDATIONS

Chairman: Prof. J. Trofimenkov, USSR
Co-Chairman: Prof. G.G. Meyerhof, Canada
General Reporter: Prof. B. Broms, Sweden
Co-Reporter: Prof. H. Weinhold, FRG
Technical Secretary: Mr. H. Bredenberg, Sweden
Panelists: Mr. M. Appendino, Italy
Prof. B. Mazurkiewicz, Poland
Dr. O. Moretto, Argentina
Prof. E. Togrol, Turkey
Prof. A.F. van Weele, The Netherlands
Prof. A.S. Vesic, USA

- Introduction - J. Trofimenkov
- General report - B. Broms
- Stress wave measurements in piles - A.F. van Weele
- Bearing capacity of friction piles - B. Mazurkiewicz
- Behaviour of pile groups - A.S. Vesic
- Prepared and free discussion - G.G. Meyerhof
- Prepared and free discussion
- Summing up of discussion and closing remarks - G.G. Meyerhof and J. Trofimenkov

SESSION 9

SAVING CITIES AND OLD BUILDINGS

Chairman: Prof. J. Kérisel, France
Co-Chairman: Prof. A. Croce, Italy
General Reporter: Prof. U. Smolczyk, FRG
Co-Reporter: Prof. R. Butterfield, U.K.
Technical Secretaries: Dr. S-E. Rehnman and Mr. H. Bohm, Sweden
Panelists: Dr. M. Gonzáles Flores, Mexico
Prof. J. Huder, Switzerland
Prof. A. Loizos, Greece
Prof. W. Rattay, GDR

- Introduction - J. Kérisel
- State-of-the-Art Report - U. Smolczyk
- General report- R. Butterfield
- Introduction to the discussion - A. Croce
- Saving monumental buildings - A. Croce
- Conservation planning and integrity of old buildings - M. Gonzáles Flores
- Methods for saving structures and ground
- Free discussions
- Summing up of discussion and closing remarks - A. Croce, J. Kérisel

FRIDAY, JUNE 19

SESSION 10

SOIL DYNAMICS

Chairman: Dr. V.A. Ilyichev, USSR
Co-Chairman: Prof. W.D.L. Finn, Canada
General Reporter: Prof. R.V. Whitman, USA
Co-Reporter: Prof. K. Ishihara, Japan
Technical Secretary: Dr. B. Andréasson, Norway
Panelists: Dr. A. Erguvanli, Turkey
Dr. P.J. Moore, Australia
Dr. V. Perlea, Roumania
Prof. S. Prakash, India
Dr. J. Studer, Switzerland

SESSION 8

FONDATIONS SUR PIEUX

Président: Prof. J. Trofimenkov, URSS
Vice-Président: Prof. G.G. Meyerhof, Canada
Rapporteur Général: Prof. B. Broms, Suède
Co-Rapporteur: Prof. H. Weinhold, FRA
Secrétaire Technique: M. H. Bredenberg, Suède
Membres du panel: M. M. Appendino, Italie
Prof. B. Mazurkiewicz, Pologne
Dr. O. Moretto, Argentine
Prof. E. Togrol, Turquie
Prof. A.F. van Weele, Pays-Bas
Prof. A.S. Vesic, Etats-Unis

- Introduction - J. Trofimenkov
- Rapport général - B. Broms
- Mesures des ondes de chocs dans les pieux - A.F. van Weele
- Capacité portante des pieux travaillant au frottement latéral - B. Mazurkiewicz
- Comportement des groupes de pieux - A.S. Vesic
- Discussion préparée et libre - G.G. Meyerhof
- Discussion préparée et libre
- Résumé de la discussion et clôture de la session - G.G. Meyerhof et J. Trofimenkov

SESSION 9

SAUVETAGE DES CITES ET DES BATIMENTS ANCIENS

Président: Prof. J. Kérisel, France
Vice-Président: Prof. A. Croce, Italie
Rapporteur Général: Prof. U. Smolczyk, RFA
Co-Rapporteur: Prof. R. Butterfield, Royaume-Un
Secrétaires Techniques: Dr. S-E. Rehnman et M. H. Bohm, Suède
Membres du panel: Dr. M. Gonzáles Flores, Mexique
Prof. J. Huder, Suisse
Prof. A. Loizos, Grèce
Prof. W. Rattay, RDA

- Introduction - J. Kérisel
- Rapport sur l'état des connaissances - U. Smolczyk
- Rapport général - R. Butterfield
- Introduction à la discussion - A. Croce
- Conservation des monuments - A. Croce
- Planification pour la conservation et l'intégrité des bâtiments anciens - M. Gonzáles Flores
- Méthodes de sauvetage pour les structures et les fondations
- Discussions libres
- Résumé de la discussion et remarques de clôture - A. Croce, J. Kérisel

VENDREDI 19 JUIN

SESSION 10

DYNAMIQUE DES SOLS

Président: Dr. V.A. Ilyichev, URSS
Vice-Président: Prof. W.D.L. Finn, Canada
Rapporteur Général: Prof. R.V. Whitman, Etats-Unis
Co-Rapporteur: Prof. K. Ishihara, Japon
Secrétaire Technique: Dr. B. Andréasson, Norvège
Membres du panel: Dr. A. Erguvanli, Turquie
Dr. P.J. Moore, Australie
Dr. V. Perlea, Roumanie
Prof. S. Prakash, Inde
Dr. J. Studer, Suisse

- Introduction - V.A. Ilyichev
- General report - R.V. Whitman and K. Ishihara
- Evaluation of soil properties and constitutive equations - A. Erguvanli, V. Perlea
- Design of machine foundations, P.J. Moore, S. Prakash
- Response of soils to dynamic loads - J. Studer
- Floor discussion - W.D.L. Finn
- Summing up of floor discussion - W.B.L. Finn
- Closing remarks - V.A. Ilyichev

- Introduction - V.A. Ilyichev
- Rapport Général - R.V. Whitman et K. Ishihara
- Evaluation des propriétés des sols et équations constitutives - A. Erguvanli, V. Perlea
- Conception des fondations pour machines - P.J. Moore, S. Prakash
- Reaction des sols sous les chargements dynamiques - J. Studer
- Discussion dans la salle - W.D.L. Finn
- Résumé de la discussion dans la salle - W.B.L. Finn
- Remarques de clôture - V.A. Ilyichev

SESSION 11

SLOPE STABILITY

Chairman: Prof. N. Janbu, Norway
 Co-Chairman: Prof. J.N. Hutchinson, U.K.
 General Reporter: Prof. R.J. Marsal, Mexico
 Co-Reporter: Prof. P. La Rochelle, Canada
 Technical Secretary: Dr. L. Viberg, Sweden
 Panelists: Prof. P. Anagnosti, Yugoslavia
 Dr. V. Mencl, Czechoslovakia
 Mr. G. Pilot, France
 Dr. E. Slunga, Finland
 Prof. W. Wolski, Poland

- Introduction of officers and panelists - N. Janbu
- Theme of session - N. Janbu
- Presentation of general report - R.J. Marsal
- Selected topics for panelists (10 minutes each of presentation and discussion of each topic)
- Floor discussion - J.N. Hutchinson
- Closing remarks - N. Janbu

(Note: Films on the Rissa and Tuve landslides were shown in another hall throughout the conference)

SESSION 11

STABILITE DES PENTES

Président: Prof. N. Janbu, Norvège
 Vice-Président: Prof. J.N. Hutchinson, Royaume-Uni
 Rapporteur Général: Prof. R.J. Marsal, Mexique
 Co-Rapporteur: Prof. P. La Rochelle, Canada
 Secrétaire Technique: Dr. L. Viberg, Suède
 Membres du panel: Prof. P. Anagnosti, Yougoslavie
 Dr. V. Mencl, Tchécoslovaquie
 M. G. Pilot, France
 Dr. E. Slunga, Finlande
 Prof. W. Wolski, Pologne

- Introduction des participants et membres du panel - N. Janbu
- Thème de la session - N. Janbu
- Présentation du rapport général - R.J. Marsal
- Sujets sélectionnés pour les membres du panel (10 minutes pour la présentation et discussion de chaque sujet)
- Discussion dans la salle des thèmes de la session - J.N. Hutchinson
- Remarques de clôture - N. Janbu

(Note: Des films des glissements de terrain de Rissa et Tuve étaient projetés dans une autre salle pendant toute la durée de la conférence)

SESSION 12

SOIL IMPROVEMENT

Chairman: Prof. H. Cambefort, France
 Co-Chairman: Prof. J.A. Jiménez Salas, Spain
 General Reporter: Prof. J.K. Mitchell, USA
 Co-Reporter: Prof. R.K. Katti, India
 Technical Secretary: Mr. S. Knutsson, Sweden
 Panelists: Prof. O.G. Ingles, Australia
 Prof. R. Jappelli, Italy
 Prof. W.R. Mackechnie, Zimbabwe
 Prof. T. Yamanouchi, Japan
 Prof. I. Stănculescu, Roumania
 Prof. H. Perez-La Salvia, USA

- Introduction of Session Officers - H. Cambefort
- State-of-the-Art Report - J.K. Mitchell and R.K. Katti
- General report - J.K. Mitchell and R.K. Katti
- Discussion of topics - H. Cambefort, J.A. Jiménez Salas
 - Compaction
 - Preloading - vertical drains - deep mixing methods - stone columns
 - Grouting
 - Chemical stabilization - lime columns
 - Reinforcement of soil
- Closing remarks - H. Cambefort

SESSION 12

AMELIORATION DES SOLS

Président: Prof. H. Cambefort, France
 Vice-Président: Prof. J.A. Jiménez Salas, Espagne
 Rapporteur Général: Prof. J.K. Mitchell, Etats-Unis
 Co-Rapporteur: Prof. R.K. Katti, Inde
 Secrétaire Technique: M. S. Knutsson, Suède
 Membres du panel: Prof. O.G. Ingles, Australie
 Prof. R. Jappelli, Italie
 Prof. W.R. Mackechnie, Zimbabwe
 Prof. T. Yamanouchi, Japon
 Prof. I. Stănculescu, Roumanie
 Prof. H. Perez-La Salvia, Etats-Unis

- Introduction des participants à la session - H. Cambefort
- Rapport sur l'état des connaissances - J.K. Mitchell et R.K. Katti
- Rapport général - J.K. Mitchell et R.K. Katti
- Discussion de thèmes de la session - H. Cambefort, J.A. Jiménez Salas
 - Pilonnage intensif
 - Préchargement - drains verticaux - deep mixing methods - colonnes balastées
 - Injection de consolidation
 - Echange d'ions
 - Renforcement du sol
- Remarques de clôture - H. Cambefort

CLOSING SESSION

Address by Prof. M. Fukuoka, Japan, President of ISSMFE

Short address by the newly-elected President of ISSMFE
Prof. V.F.B. de Mello, Brazil

Conclusions from Technical Sessions, Prof. S. Hansbo,
Sweden, Chairman, Organizing Committee of X. ICSMFE

Closing addresses

SÉSSION DE CLOTURE

Discours du Prof. Fukuoka, Japon, Président du ISSMFE

Discours bref par le Président du ISSMFE, nouvellement
élu, Prof. V.F.B. de Mello, Brésil

Conclusions des Sessions Techniques par le Prof.
S. Hansbo, Suède, Président du Comité d'Organisation de
X. CIMSTF.

Discours de clôture

EVENING PROGRAM FOR DELEGATES AND ACCOMPANYING PERSONS

SUNDAY, JUNE 14

WELCOME RECEPTION AT SKANSEN

There were drinks with snacks at Skansen, a well-known
park and open-air historical museum in Stockholm.

MONDAY, JUNE 15

OFFICIAL RECEPTION

By invitation of the City of Stockholm a reception was
given at the Stockholm City Hall.

TUESDAY, JUNE 16

HOME HOSPITALITY

A number of Swedish geotechnical engineers with families
living in and around Stockholm had offered to open their
homes to X. ICSMFE participants to spend a truly Swedish
evening together.

TUESDAY, JUNE 16

SUMMERNIGHT CONCERT - THE CATHEDRAL OF STOCKHOLM

A performance by the Stockholm Ensemble of the gems of
classical music; then a stroll through the clear night
back home along the quays of Stockholm. The concert took
place in the Cathedral of Stockholm close to the Royal
Palace.

WEDNESDAY, JUNE 17

ARCHIPELAGO TOUR, WAXHOLM

A boat excursion through the unique archipelago to the
historic fortress at Waxholm, Music, entertainment and
an outdoor meal.

WEDNESDAY, JUNE 17

STEAMSHIP TOUR

A steamship tour through the most beautiful waterways of
the Stockholm archipelago. Dinner was served on board
during the tour.

THURSDAY, JUNE 18

BANQUET

The Organizing Committee of X. ICSMFE was hosting the
banquet at the Stockholm City Hall, the place for the
traditional Nobel Prize festivities. Dinner, entertain-
ment and dancing.

PROGRAMME DES ACTIVITES EN SOIREE POUR LES PARTICIPANTS ET LES PERSONNES ACCOMPAGNANTES

DIMANCHE 14 JUIN

RECEPTION D'ACCUEIL A SKANSEN

Un buffet était organisé à Skansen, qui est un parc
renommé et musée historique en plein air de Stockholm.

LUNDI 15 JUIN

RECEPTION OFFICIELLE

Cette réception à l'Hôtel de Ville était offerte par la
Ville de Stockholm.

MARDI 16 JUIN

ACCUEIL DANS DES FAMILLES SUEDOISES

Un certain nombre d'ingénieurs géotechniciens suédois
vivant avec leur familles à Stockholm ou aux alentours
avaient offert d'ouvrir leur maisons aux participants au
congrès et les ont invités à passer avec eux une vraie
soirée suédoise.

MARDI 16 JUIN

CONCERT D'UNE NUIT D'ETE - CATHEDRALE DE STOCKHOLM

On a écouté l'Ensemble de Stockholm interpréter des
joyaux de la musique classique, puis on a pu rentrer à
pied le long des quais de Stockholm, par une nuit très
claire. Le concert a eu lieu à la Cathédrale de Stockholm,
située près du Palais Royal.

MERCREDI 17 JUIN

EXCURSION DANS L'ARCHIPEL, WAXHOLM

Une excursion en bateau dans un paysage unique de 20.000
îles, jusqu'à la forteresse historique de Waxholm, où
musique, spectacle et repas en plein air attendaient.

MERCREDI 17 JUIN

EXCURSION EN BATEAU A VAPEUR

Une excursion en bateau à vapeur, sur les plus beaux
canaux de l'archipel de Stockholm. Un dîner a été servi
à bord pendant l'excursion.

JEUDI 18 JUIN

BANQUET

Le Comité d'Organisation du Xème Congrès a organisé le
banquet à l'Hôtel de Ville de Stockholm, endroit des
cérémonies traditionnelles du Prix Nobel. Repas,
spectacle et danse.

DAY PROGRAM FOR ACCOMPANYING PERSONS

MONDAY, JUNE 15

BOAT TOUR UNDER THE BRIDGES OF STOCKHOLM

A historical cruise among the fourteen islands on which the city developed through seven centuries.

TUESDAY, JUNE 16

SIGHTSEEING IN STOCKHOLM

Sightseeing tour including visits to the Royal Palace, the residence of the Royal Family, and to the Milles Sculpture Garden set high above the waters of Stockholm. Lunch at Operakällaren.

WEDNESDAY, JUNE 17

EXCURSION TO THE DROTTHINGHOLM PALACE

Boat trip to Drottningholm on the beautiful lake Mälaren. Lunch on board. The Drottningholm Palace dates from the 17th century and was modelled on Versailles with beautiful gardens and parks. Visit also to the China Pavillion.

THURSDAY, JUNE 18

WASA MUSEUM

The man-of-war Wasa sank in the harbour of Stockholm on its maiden voyage in 1628 and was salvaged in 1961. After a thorough renovation it can now be seen in its original state. Visit to the museum.

THURSDAY, JUNE 18

GUSTAVSBERG

Visit to Gustavsberg, Sweden's largest ceramic industry with art and utility products.

THURSDAY, JUNE 18

SKOKLOSTER AND SIGTUNA

The Skokloster Castle is famous for its large old library and its collection of old art and arms from wars in Europe when Sweden was a superpower. From Skokloster, the tour continued to Sigtuna, one of Sweden's oldest cities, situated on Lake Mälaren. Lunch in Sigtuna.

POST-CONFERENCE TOURS

Post-conference tours for delegates and accompanying persons at X. ICSMF had been prepared by the Nordic geotechnical societies in cooperation with the X. ICSMF Organizing Committee.

TOURS

Southern Finland, Northern Finland, Northern Sweden, Central Sweden, Norway, Western Norway and Northern Norway.

PROGRAMME DES ACTIVITES PENDANT LA JOURNEE, POUR LES PERSONNES ACCOMPAGNANTES

LUNDI 15 JUIN

EXCURSION EN BATEAU SOUS LES PONTS DE STOCKHOLM

Une excursion historique entre les quatorze îles sur lesquelles la ville s'est développée depuis sept siècles.

MARDI 16 JUIN

EXCURSION TOURISTIQUE EN AUTOCAR DANS LA VILLE DE STOCKHOLM

Visite au Palais Royal, la résidence de la famille royale, et au jardin de sculptures de Carl Milles, surplombant les eaux de Stockholm. Déjeuner à l'Opera-källaren au cours de l'excursion.

MERCREDI 17 JUIN

EXCURSION AU PALAIS DE DROTTHINGHOLM

Excursion à Drottningholm en bateau sur le magnifique lac Mälaren. Déjeuner à bord. Le Palais de Drottningholm date du 17ème siècle et est inspiré de celui de Versailles. Promenade dans les magnifiques parcs et jardins du palais royal et visite du Pavillon Chinois.

JEUDI 18 JUIN

MUSEE WASA

Le navire de guerre Wasa, coulé dans le port de Stockholm au cours de son premier voyage en 1628, a été renfloué en 1961 et, après une restauration minutieuse, peut maintenant être admiré dans son état d'origine. Visite au musée.

JEUDI 18 JUIN

GUSTAVSBERG

Visite à Gustavsberg, la plus grande industrie de céramique en Suède, produisant des objets d'art et utilitaires.

JEUDI 18 JUIN

SKOKLOSTER ET SIGTUNA

Le Château de Skokloster est célèbre pour son imposante bibliothèque ancienne, ses collections d'oeuvres d'art et d'armes anciennes, rapportées de guerres en Europe, du temps de la puissance militaire de la Suède. De Skokloster, l'excursion a continué jusqu'à Sigtuna, l'une des plus vieilles villes de Suède, située sur le lac Mälaren. Déjeuner à Sigtuna.

TOURNEES POST-CONGRES

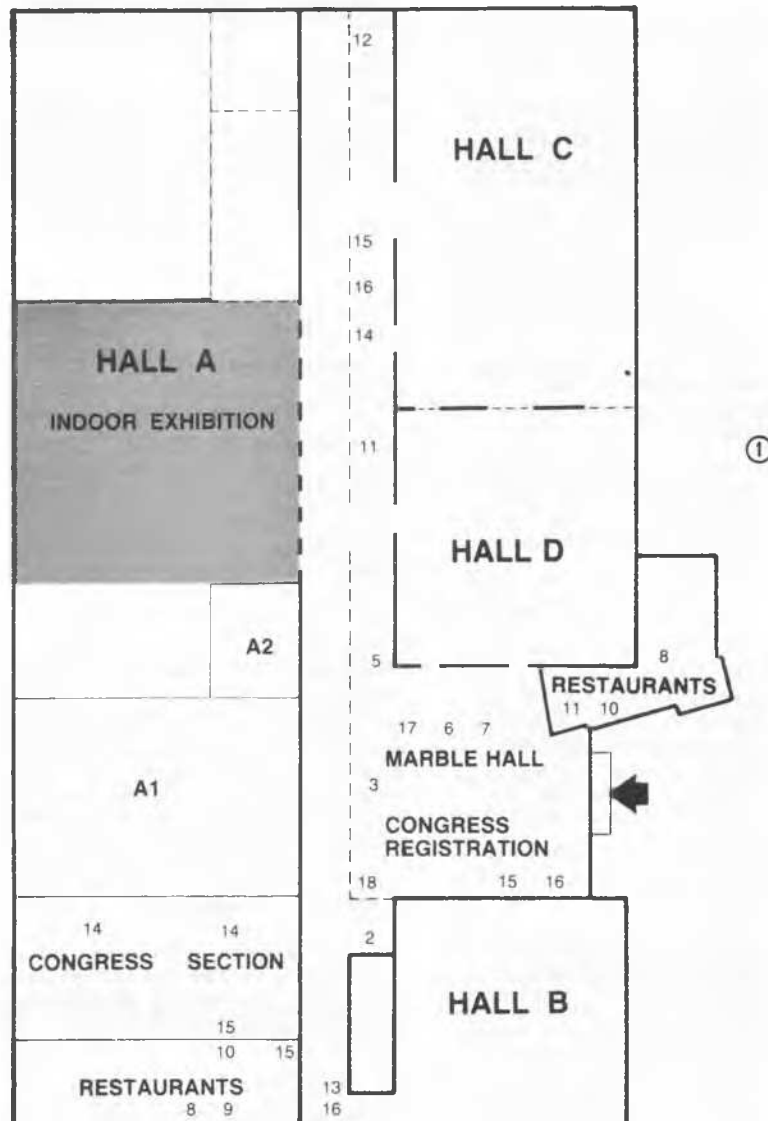
Des tournées post-congrès ont été organisées, pour les participants au Xème Congrès et les personnes accompagnantes, par les Sociétés géotechniques des pays nordiques, en co-opération avec le Comité d'Organisation du Xème Congrès.

TOURNEES

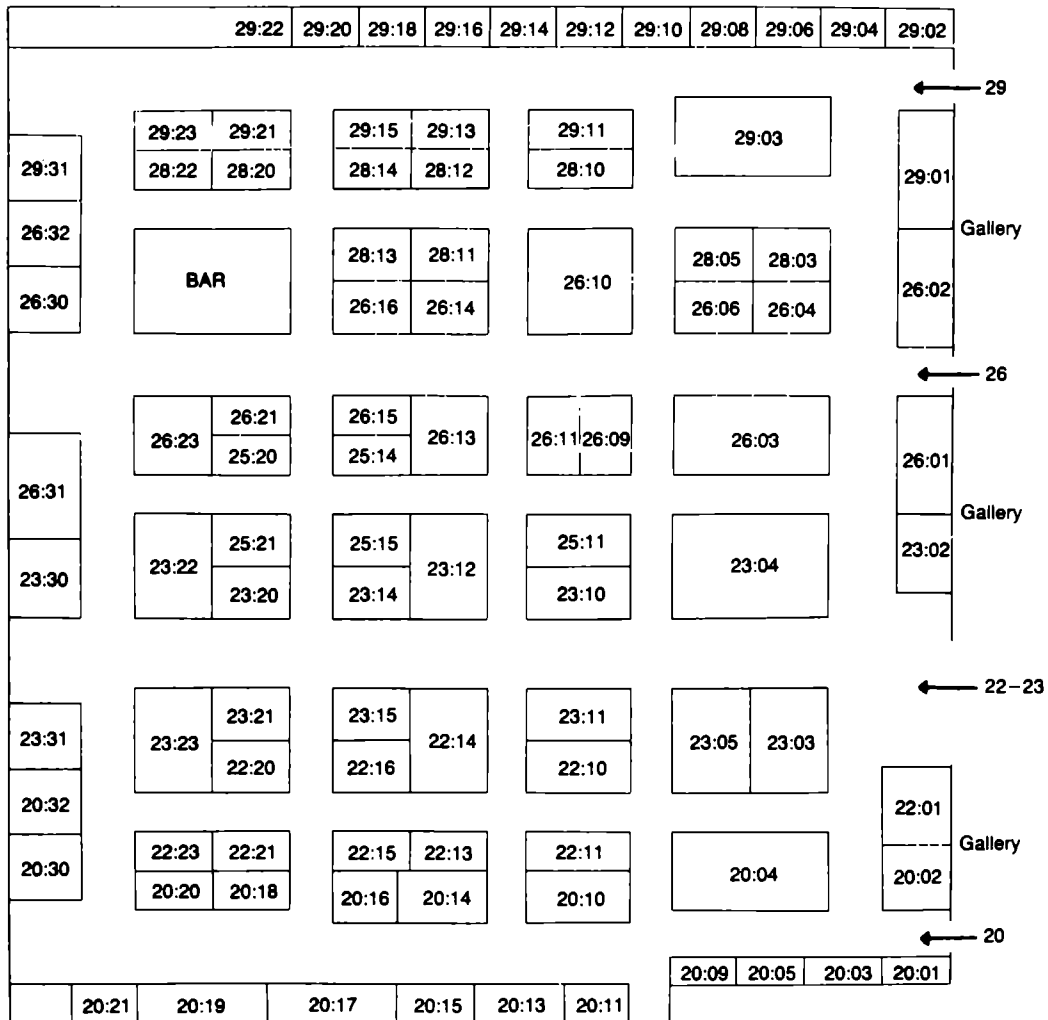
Le Sud et le Nord de la Finlande; Le Centre et le Nord de la Suède; Norvège et le Ouest et le Nord de la Norvège.

INTERNATIONAL EXHIBITION
AT THE X. ICSMFE
STOCKHOLM - SWEDEN - 1981

GEOEX 81 EXHIBITION
PLAN OF FAIR PREMISES



Plan of indoor exhibition



Outdoor exhibition: UT:01 Borros AB
UT:02 Balken Piling System

List of exhibitors Liste des exposants

- A**
- 26:23 A-Joint Corporation AB**
Fredåsgatan 13, P.O. Box 2083
S-431 02 Mölndal, Sweden
Ph. +46 31 87 91 90
Telex S-27 499 A-Joint
Dyn-A-Splice (dynamic pile splice). Pile Beaver (Hydraulic pile cutter), Dyn-A-Cap (Disc spring pile cap).
- 26:23 A-Joint Corporation Inc.-USA**
See A-Joint Corporation AB
- 23:22 Atlas Copco**
S-102 60 Stockholm, Sweden
- 23:23 S-102 60 Stockholm, Sweden**
Ph. 08 743 80 00
Mobile drill rigg B-47. Portable rotary drilling rigg Minuteman. Overburden excentric drilling ODEX.
- 26:02 Atlas Copco ABEM AB**
P.O. Box 20086, S-161 20 Bromma Sweden
Ph. 08 730 08 40
Cable Industriment
Telex 13079 copinst s
Geophysical equipment. Vibration monitoring equipment. Settlement probes.
- B**
- 29:06 BEMEK**
Box 11063, S-951 11 Luleå, Sweden
Ph. 0920 480 40
Roch Mechanical Instruments. Extensometers. Stress cells. Automatic Failure Indicator. Injectionpumps and miker.
- 26:03 BEVAC-Switzerland**
See Geotech AB
- 20:14 BSP International Foundations Limited**
Claydon, Ipswich
Suffolk IP6 0JD, U.K.
Ph. Ipswich (0473) 83 04 31
Cable Piling dom Ipswich
Telex 98115
Graphic display publishing our range of Piling Hammers and Extractors. Vibratory pile drivers/extractors. Piling plants and leaders. Vibro piling system. Large bore drilling riggs. Diaphragm walling riggs. Cased Piles. Steel tubular piles. Spiral weld steel pipe. Steel Trench Sheetting and Fibertex filtersheet.
- 23:05 Balken Piling System**
UT:02 Göteborgs Betongpålar AB
Box 10251, S-434 01 Kungsbacka Sweden
Ph. +46 300 145 90
Cable Balkenpile
Telex 21230 piling s
We display the Balken Piling System. The Balken Piling System embraces: The design and production of precast concrete segmental piles in specially designed manufacturing plants, installation using modern piledriving equipment, testing by stress wave analysis, sales of piles and all components included in the System. For further information, see the 1981 World Geo-Guide.
- 20:20 Belladonna Fernando**
Via Prenestina 911, Roma, Italy
Ph. 06 22 00 71, 22 09 38
Soil testing equipment, automatic electronic data acquisition systems, electronic penetrometer.
- 26:06 Berg Ingenieursburo b.v.,**
A.P. van den
Ijzerweg 4, P.O. Box 68
8440 AB Heerenveen, The Netherlands
Ph. 051 30 313 55
Telex 46229
Photographs, dia's, drawings, schemes and documentation on static cone penetrometers, hand-held (2.5, 5, 10 Tf), hydraulical driven (4-5, 8-10, 16-20, 25-30 Tf) trailer- or truck mounted. Sean bottom- and wireline seabottom penetrometers. Undisturbed sampling apparatus, to be used with all types of penetrometers. Auxiliaries.
- 26:02 Bison Instruments, Inc.-USA**
See Atlas Copco ABEM AB
- 20:04 Borros AB**
UT:01 Kruthusbacken 58, Box 3063
S-171 03 Solna, Sweden
Ph. 08 27 26 20
Cable Borrodrilling
Telex 11669 borro s
Geotechnical equipment for soil investigation and laboratory equipment, drilling acc.
- 26:10 Byggnads- & Industriservice AB, BINAB**
Box 12525, S-102 29 Stockholm Sweden
Ph. 08 52 04 70
- Telex 13107 Nabo S
Prefabricated concrete piles. Pile joints. Rock points for the Hercules piling system, working load 450-1 550 kN. Sheet piling. Permanent rock anchors, working load 600-1 800 kN. Light anchors for sheet pile walls. Heat pump for ground heating system. Underpinning system. Piles of cast ductine iron tubing. Over burden drilling methods.
- C**
- 29:14 Cambridge Insitu**
Little Eversden
Cambridge, CB 3 7 HE, U.K.
Ph. 022 026 23 61
Telex 817898
The Cambridge Self-boring Pressuremeters, the camkometers and their associated apparatus.
- 28:13 Casagrande S.p.A.**
Via Grigoletti, 107
I-33074 Fontanafredda (PN)
Italy
Ph. 0434 993 16/7/8/9
Telex 450073
Foundation equipment. Special equipment for harbours.
- 23:10 Chemical Grouting Co.-Japan**
See Geo-Projektering Bygg AB
- 26:13 Chemie Linz AG**
A-4021 Linz, St. Peter-Straße 25
Austria
Ph. (0732) 591-0
Cable Chemie Linz
Telex 02 1324
Repr. in Sweden: FLA Utvecklings AB, Tagarps Cement, Box 35, S-260 22 Tagarp. Ph. (418) 502 50
Polyfelt TS, Safecoat, Dynastat UV.
- 20:01 Consulting Engineer**
Elm House, 10-16 Elm Street
London WC1X 0BP, U.K.
Ph. 01 278 23 45
Telex 21746
Repr. in Sweden: Ken Högberg, Döbelnsgatan 64, 113 52 Stockholm
Consulting Engineer is the journal of international consultancy. Circulation: 8,000 copies per month, spread among top consultants and major international firms in Europe.

- 22:14 Controls s.r.l.**
4, Via Sondrio
200 63 Cernusco S/N, Milano
Italy
Ph. 2 904 15 41, 904 15 17
Cable Controls, Cernusco S/N
Telex 333387 Contr I
Testing equipment for construction materials. Geotechnical equipment. Mobile laboratories.
- 23:22 Craelius AB**
23:23 Box 20513, S-161 20 Bromma
Ph. 08 95 05 20
Telex 19459
Corebarrels drill roads.
Coredrill Pixie 51.
- D**
- 20:16 Delft Soil Mechanics Laboratory**
P.O. Box 69, 2600 AB Delft
The Netherlands
Ph. (0)15 56 92 23
Telex 38234 Solab
Sampling equipment, 20 m long undisturbed soil samples, cone penetrometers, waterpressure meters, apparatus for in situ density measurement and permeability measurement, information on research and consulting facilities, on field investigation, laboratory testing, the new geotechnical wave flume (250 m long) information on seabed investigation by means of manned submerged installations, on soil densification, on environmental projects, seepage problems, etc.
- 26:04 Dynapac Maskin AB**
P.O. Box 1103, S-171 22 Solna
Sweden
Ph. 08 98 80 00
Cable Dynapac, Stockholm
Telex 19531 Dynsol S
Repr.: Dynapac Maskin Svenska Försäljnings AB, Saldovägen 14, 175 62 Järfälla. Ph. 08 760 28 30
Presentation of our products and services in the field of soil compaction.
- E**
- 26:21 EG&G GeoMetrics**
395 Java Drive, P.O. Box 497
Sunnyvale, CA 94086, USA
Ph. (408) 734 46 16
Cable Geometrics Sunnyvale
Telex 357-435
Repr. in Sweden: Olle Moberg, AB, P.O. Box 1, S-179 00 Stenhamra.
Ph. 0756 241 35
Shallow Exploration Seismographs.
- 29:13 Ekebro AB**
Box 704, S-721 20 Västerås
Sweden
Ph. 021 12 01 00
Plancher.
- 20:05 Elsevier Scientific Publishing Co**
- Molenwerf 1
NL-1014 AG Amsterdam
PH. 020 580 39 11
Telex 18582 Espa NL
Scientific books.
- 20:19 Engineering Laboratory Equipment Limited**
Eastman Way, Hemel Hempstead
Hertfordshire HP2 7HB, U.K.
Ph. Hemel Hempstead (0442) 50221
Cable Elequip, Hemel Hempstead
Telex 825239
Materials testing equipment, including computer-controlled recording and analysis of test results.
- 26:01 Enka bv—Industrial Systems**
(member of the Akzo Group)
P.O.B. 306, 6800 AH Arnhem
Holland
Ph. 085 66 44 22
Cable Enka Arnhem
Telex 45204
Information stand with photographs and display material referring to services and/or products from Enka and other Akzo Group Members, for the branch concerned.
- 22:20 Entreprenad, Leveranstidningen**
Box 144, S-162 12 Vällingby
Sweden
Ph. 08-89 00 00
Magazine for contractors, constructions and building industries.
- F**
- 25:14 Fenning Environmental Products Limited**
Unit "H", Stadium Industrial Estate
Cradock Road, Luton, Beds, U.K.
Ph. 0582 59 90 26
Telex 82 63 35
Geophysical Instruments.
- 20:17 Fibertex APS**
Svendborgvej 16, p.o.b. 8029
DK-9220 Aalborg Øst, Denmark
Ph. +45 8 15 86 00
Cable fibertex aalborg
Telex 69600 fiber dk
Repr. in Sweden: AB Strängbeton, p.o.b. 30036, S-104 25 Stockholm. Ph. +46 8 13 20 90. Telex 10351 strengs.
Fibertex Geotextiles, filterfabrics, drainage protection fabrics, erosion control fabrics.
- 20:17 Fjeldhammer Brug, A/S—Norway**
See Fibertex APS
- 20:30 Fondasol International**
5, bis, rue du Louvre
750 01 Paris, France
Ph. (1) 260 21 43 or (90) 31 23 96
Telex 670230 or 431344 Fondasol Mtfav
Description of Fondasol activities in France and abroad as Soil Consulting
- Engineers and geotechnical investigation, contractors (photographs-video), light sounding equipment manufactured in Fondasol factories such as "log recorder" (speed and force on tool logging), "piezo electrical probe", etc.
- 25:11 Foundation Construction Ltd. — Nigeria**
See Foundation Engineering Limited
- 25:11 Foundation Engineering Limited**
96, Blackfriars Road
London SE1 8 HW, U.K.
Ph. 01 928 49 77
Cable Cosdon London
Telex 895 20 77 Cospec G
Audio-Visual material on Geotechnical services.
- 25:11 Foundation Engineering (Nigeria) Ltd.—Nigeria**
See Foundation Engineering Limited
- 20:02 f o v Teknik**
Box 165, S-501 04 Borås, Sweden
Ph. 033 13 61 60
Telex 36108
Geotextiles for reinforcement of embankments and as filters.
- 23:31 Fugro B.V.—Netherlands**
See Fugro Consultants International B.V.
- 23:31 Fugro Consultants International B.V.**
P.O. Box 41, 2260 AA Leidschendam
The Netherlands
Ph. 070 20 92 50
Cable Fugro
Telex 31010
Fugro is a company of consulting geotechnical engineers, surveyors and photogrammetrists, environmental, construction inspection and earth science consultants. Subsurface investigation, laboratory testing of soils, design studies and recommendations, pavement engineering, photogrammetry, land surveying, electronic data processing, environmental. Interactive Graphic Computer System.
- 23:31 Fugro (Gulf) Inc.—USA**
See Fugro Consultants International B.V.
- 23:31 Fugro (Hong Kong) Ltd—Hong Kong**
See Fugro Consultants International B.V.
- 23:31 Fugro Ltd.—U.K.**
See Fugro Consultants International B.V.
- 23:31 Fugro (Singapore) Pte. Ltd.—Singapore**

- See Fugro Consultants International B.V.
- 23:14 Funderingstechnieken Verstraeten b.v.-Netherlands**
See Fundex Piling Equipment
- 23:14 Fundex N.V.-Belgium**
See Fundex Piling Equipment
- 23:14 Fundex Piling Equipment**
Tillegemstraat 34
8200 Brugge, Belgium
Ph. 00 31 11 70-29 57
Telex 55181 fundx nl
Documentation about piling equipment and piling systems—foundation techniques.
- G**
- 25:14 GSSI, Limited-USA**
See Fenning Environmental Products Limited
- 28:03 Geodynamik AB**
Regeringsgatan 111
S-111 39 Stockholm, Sweden
Ph. +46 8 20 67 90
Compaction:
Soil deformation meter, frequency/amplitude meter. Soil acceleration transducer. Compactometer. Computer system for soil dynamics: data acquisition, dynamic soil investigation, seismic survey, vibration monitoring. Piling: Impact velocity transducer. Rock anchor controller.
- 26:03 Geofinn Oy-Finland**
See Geotech AB
- 25:14 Geonics Limited-Canada**
See Fenning Environmental Products Limited
- 22:13 Geonor A/S**
Box 99 Røa, Oslo, Norway
Ph. 24 18 91
Cable Geonor
Telex 17306 Genor
Triaxial equipment. Instrumentation equipment.
- 23:10 Geo-Projektering Bygg AB**
Storgatan 30
S-753 31 Uppsala, Sweden
Ph. 018 15 22 90
Telex 76056 Upat s
Consultants and Contractors in soil mechanics and foundation engineering.
- 26:03 Geotech AB**
Datavägen 53, S-436 00 Askim
Sweden
Ph. +46 31 28 99 20
Telex 27150 Geotech S
Crawler mounted drilling/sounding equipment. Cableless electric sounding
- system. Field data curve plotter. "Vibrating wire" type piezometers with and without zero point check. Standpipe Piezometers. Manual equipment for vane probe sounding, penetrometer tests etc. Various accessories for different sounding and sampling methods.
- 22:23 Geotechnical Digital Systems Ltd**
26 Midway, Walton-on-Thames
U.K., KT12 3HZ
Ph. +44 9322 479 59
Telex 929988 Legh G
Digital pressure controllers, computers and computer peripherals, Triaxial testing equipment.
- 25:20 Geotechnical Instruments Limited**
Geotechnical House
Hatton, Warwick, U.K.
Ph. Warwick (0926) 444 42/3/4
Telex 312422 Geotex
Reliable instruments for the Civil Engineering and mining industries. Hydraulic, pneumatic and electrical piezometers; earth pressure and load cells; hydraulic, pneumatic and magnetic settlement systems; vertical and horizontal inclinometers; extensometers; borehole orientation devices; automatic "bubler" water level recording systems.
- 20:15 Geotechnics Holland BV**
P.O. Box 270, 6950 AG Dieren
Holland
Ph. 08330 150 23
Telex 35370 woude nl
"Mebra-Drain" system.
Soil Stabilisation by vertical drainage with the Mebra-Drain system.
- 26:32 Geotest Instrument Corp**
P.O. Box 551, Wheeling
IL 600 90, USA
Ph. 312 459 07 10
Cable Geotest Wheeling Illinois
Telex 206175
Universal consolidation apparatus, Cyclic triaxial apparatus capable of controlled stress and controlled strain testing, various triaxial apparatus, Iowa bore hole insitu shear apparatus, unconfined compression apparatus, degeneration de-airing apparatus, digital reading indicators for stress, strain and pore pressure, snow observation kit, ice and permafrost coring anger.
- 20:10 Glötzl, Gesellschaft für Baumesstechnik mbH**
Forlenweg 11
D-7512 Rheinstetten 4-Fo
Ph. (0721) 51 95 61/62
Cable Baumeßglötl Karlsruhe
Telex 7825698 bmgf d
Total Pressure Cells. Load Cells for Anchors. Settlement Cells. Pore Water Pressure Cells. Inclinometer. Automatic Read Out Unit. Bore Hole Sonde.
- 22:21 Goudsche Machiniefabriek B.V.**
- Kattensingel 21, 28101 Ca Gouda
P.O. Box 125, 2800 AC Gouda
Holland
Ph. (01820) 170 55
Cable machines
Telex 20825
Cone Penetrometers and auxiliary equipment.
- I**
- 23:12 ICI Fibres "Terram"**
Pontypool, Gwent, NP4 0YD, U.K.
Ph. Pontypool (04955) 57722
Cable Fibres, Pontypool
Telex 668411 Icims G
Repr. in Sweden: ICI Fiber AB, Box 207, S-401 23 Göteborg.
Ph 031 45 09 65
"Terram" non-woven geotextiles, "Terram" special purpose fabrics and "Filtram" laminated filter-drains are manufactured by ICI for the Construction Industry. "Terram" is used in road and railway construction, in drainage systems and in erosion prevention structures. "Terram" construction membranes provide a cost-effective solution wherever the problem is filtration, separation, or earth reinforcement. "Filtram" is a drainage system in which the filter and the drainage medium are integrated into a single, convenient-to-use, thin, flexible sheet. It replaces granular filters and reduces aggregate requirements.
- 29:31 I.S.M.E.S. (Istituto Sperimentale Modelli E Strutture) S.p.A.**
V.le G. Cesare, 29, Bergamo
Italy
Ph. 035 24 30 43
Telex 30 12 40 Ismes I
Geotechnical equipment.
- 26:09 Icels Pall/Lacor**
Viale Majno 5
I-20122 Milano, Italy
Ph. (02)70 12 94, 78 03 09
Telex 333261
Samples of corrugated steel shells, mandrel section, Lacor joint, photographic documents.
- 29:11 Icopal ab**
Box 848, S-201 80 Malmö, Sweden
Ph. 040-742 00
Leca used as a light-weight artificial part of the foundation.
- 20:13 International Construction Equipment B.V.**
Hebrugweg 6, De Vaart 1
1332 An Almere, Holland
Ph. 03240-205 60
Telex 47162
Repr. in Scandinavia: Secalt ApS, Hovedgade 44, Postboks 97, DK-3520 Farum, Denmark. Ph. 2 95 23 06
Hydraulic vibratory hammer. Double acting diesel pile hammer. Jet and water supply pump. Submersible pumps. Hydraulic earth augers.

- 20:13 International Construction Equipment Corp.—USA**
See International Construction Equipment B.V.
- 29:20 Irad Gage**
Etna Road, Lebanon, NH 03766, USA
Ph. (603)448 44 45
Telex 7103666582 Irad USA Lban
Extensometers, Instrumented Roof-bolts, Strain Gages, Sonic Probes, Stressmeters, Deformation Gages, Readout Systems, Load Cells, Piezometers, Convergence Meters, Data-loggers.
- J**
- 26:16 Japanese Association for Steel Pipe Piles**
3-16 Nihonbashi-Kayaba-cho
Chuo-ku, Tokyo, Japan
Ph. 03 669 24 37
Photopanel showing steel pipe piles in use. Supporting Catalogs. A JASPP technical report "The Effect of Horizontal Loads on Piles" (proceedings of the speciality session 10 of IX ICSMFE) will also be on sale.
- K**
- 23:15 K-konsult**
Liljeholmstorget 7
S-117 80 Stockholm
Sweden
Ph. 08 744 00 00
Telex 17150 Teamcons
Geological and geotechnical services.
- 23:10 Kajima Corp.—Japan**
See Geo-Projektering Bygg AB
- L**
- 20:21 Labordata GmbH & Co. KG**
Wilhelm-Bode-Str. 3
3300 Braunschweig
Fed. Rep. of Germany
Telex 952503 d
Soil mechanics: Compression/Consolidation testapparatus KD 1000. Direct Shear apparatus DS 3000. Uniaxial Compression apparatus EX 5000. Triaxial Compression apparatus DX 7000.
- 23:02 Linden-Alimak AB**
Box 30614, S-931 03 Skellefteå
Sweden
Ph. 0910 142 30
Cable Lindali
Telex 65083
Repr. in Stockholm: Linden-Alimak Swedish Sales AB. Ph. 08 97 09 70
Photo display. Soil Instruments.
- 23:02 Linden-Alimak Swedish Sales AB—Sweden**
See Linden-Alimak AB
- 28:22 Lund Hydromaskin AB—Sweden**
See Siabilator AB
- M**
- 29:02 Malhak AG, H.**
Semperstrasse 38
2000 Hamburg 60
Fed. Rep. of Germany
Ph. 040 27 16-1
Telex 02 11158
Repr. in Sweden: Alentec AB, Fack S-132 01 Saltsjö-Boo
Ph. 08 715 02 40
Measuring Instruments for Soil Mechanics.
- 28:10 Maskin & Betong—Sweden**
See Rhone Poulenc
- 29:10 Mazier et Cle**
36 r de la Charite
F-77210 Avon, France
Ph. 4252 17 28
- 23:21 Menard Caracas—Venezuela**
See Menard S.A., Techniques Louis
- 23:21 Menard Dynamic Consolidation—Saudi Arabia**
See Menard S.A., Techniques Louis
- 23:21 Menard Etudes Pressiometriques—France**
See Menard S.A., Techniques Louis
- 23:21 Menard Inc.—USA**
See Menard S.A., Techniques Louis
- 23:21 Menard Kabushiki Kaisha—Japan**
See Menard S.A., Techniques Louis
- 23:21 Menard S.A., Techniques Louis**
16, avenue Sadi Carnot Saulx Les Chartreux
P.O. Box 117, 91163 Longjumeau, France
Ph. (6) 934 50 02
Telex 690 415
A "GA" Menard Pressuremeter (With slotted tube probe), a Minipressuremeter for road base testing & feasibility studies. Various sensors (excess pore water sensor, and Geocell, total stress sensor). Flight augers with bits for pressuremeter testing.
- 23:21 Menard Techniques Ltd.—U.K.**
See Menard S.A., Techniques Louis
- 26:11 Micronic GmbH**
Bismarckallee 18, Box 426
D-1000 Berlin 33
Fed. Rep. of Germany
Ph. 030 891 78 93
Electronic equipment for soil testing: Micronic Data Computer Compression System. MDCCS 80 plant for compression tests, MDCCS 85 plant for shear tests, MDCCS 90 plant for triaxial tests.
- 23:22 Mobile Drill Inc**
- 23:23 See Atlas Copco**
- N**
- 26:30 Neef Chemie NV, De**
- Industriepark 8**
B3100 Heist-Op-Den-Berg
Belgium
Ph. 015 24 62 31
Telex 62926
One-Liquid, Aquareactive, Chemical Grout. Called TACSS for soil stabilization and watercut-off. No potlife, low viscosity. No Toxic, no inflammable, low pump pressure.
- 29:03 Netlon Limited**
Kelly Street
Blackburn BB2 4PJ, U.K.
Ph. Blackburn 62431
Telex 63313
Tensar & Netlon Geogrids. Corrosion resistant, rotproof & lightweight polymer grids, used to stabilise poor load bearing soils, to prevent soil erosion, to reinforce soils and in the construction of gabions & mattresses. Tensar structures have high tensile strengths, some similar to those of mild steels. Geogrids will be featured in models depicting their use in the construction of steep sided soil structures & as inclusions in asphalt & concrete to help prevent reflective cracking.
- 28:12 Nordmeyer KG**
Werner Nordmeyer Str. 3
Postfach 1604, D-3150 Peine
Fed. Rep. of Germany
Ph. 051 71 533 53
Cable Nordmeyer KG
Telex 92634
Hand operated Dynamic Light weight Penetrometer. Light- and Mediumweight Dynamic Penetrometer. Heavy weight Dynamic Penetrometer. Down the hole operated Standard Penetrometer. Acoustic sounding line measurement system.
- 29:15 Nycander AB, Ingenjorsfirma Per**
Box 23097, S-104 35 Stockholm, Sweden
Ph. 08 33 05 18, 0762 101 20
Telex 17134 Att Nycander
Testing Equipment.
- O**
- 20:11 OYO Corporation**
2-19 Daitakubo 2-chome, Urawa, Saitama 336, Japan
Ph. 0488 82 53 71
Cable Oyourawa
Telex 02923080 Oyojpn J
Repr. in Europe: Western Data Systems Inc-Europe, Dr Hans Staub Str. 10, D-8022, Gruenwald, Munich, Fed. Rep. of Germany. Phone 089 64 10 11
Borehole Lateral Load Testing Equipment: LLT "M", Elastometer 100. Signal Enhancement Seismograph: McSEIS-150, McSEIS-1300. Rock Sample Velocitymeter: New Sonicviewer. Borehole logging Equipment: Geologger 3000 w/ Manual winch, Borehole Pick 3315.
- 26:23 Octrin S.A.—Switzerland**
See A-Joint Corporation AB

- P**
- 26:15 PM Geotechnical Analysts Limited—U.K.**
See PM Insitu Techniques Limited ve
- 26:15 PM Insitu Techniques Limited**
Roadway House, 22 Godesdone Road
Cambridge CB5 8HR
Cambridge, U.K.
Ph. Cambridge 0223 687 36
Telex 817290
Site investigation services, using the self-boring pressuremeter. Simulated underground tests. Computer aided test analysis methods. From PM Geotechnical Analysts Ltd, analytic tools for geotechnical design engineers: routine slope stability applications, pile group analysis, retaining wall design, geotechnically oriented Finite Element computer program.
- 22:10 Pali Trevisani S.p.A.**
Via Dismano
5819 47023 Cesena (FO)
Italy
Ph. 0547 33 18 11
Cable Trevisani-Cesena
Telex 550104
Photographic panels of our job-sites.
- 28:10 Paus & Paus A.S.—Norway**
See Rhone Poulenc
- 29:21 Petur USA Instrument Co., Inc.**
11300 25th Ave., N.E.
Seattle, WA, USA (98125)
Ph. (206)362 10 81
Geotechnical Instrumentation: pneumatic piezometers, pneumatic-hydraulic settlement sensors, total pressure cells, pneumatic readout instruments, electronic-pneumatic readout instruments, water level monitoring, water well pump test monitoring, down hole TV camera, and inclinometer casing.
- 25:14 Phoenix Geophysics Limited—Canada**
See Fenning Environmental Products Limited
- 29:01 Pilcon Engineering Ltd.**
Stephenson Road, Basingstoke
Hants, U.K.
Ph. (0256)38 61-3
Cable Pilconsco Basingstoke
Telex 858469
Repr. in Scandinavia: Nordrill A.p.s.,
Duedal 70, 9230 Sventrup, Denmark.
Ph. 010 458 34 16 88
Pilcon Traveller 30 rotary drilling rig for site investigation, mineral exploration, geological surveys and water well drilling. Tricon portable triaxial and consolidation test unit. Pilcon hand vane tester for testing shear strengths of soil. Hydraulic power pack, electrically driven.
- 26:23 Piling Development—Sweden**
See A-Joint Corporation AB
- 23:14 Piling Equipment—Netherlands**
See Fundex Piling Equipment
- R**
- 29:15 RMN di Giazzi—Italy**
See Nycander AB,
Ingenjörssfirma Per
- 25:15 Raymond International Builders—USA**
See Raymond International (U.K.) Ltd.
- 25:15 Raymond International (U.K.) Ltd.**
Regal House, London Road
Twickenham, Middlesex, U.K.
Ph. 01 891 40 01
Cable Raymondint Twickenham
Telex 27962
Slides and Photographs of land and marine foundation construction services worldwide.
- 25:15 Raymond Offshore Constructors—USA**
See Raymond International (U.K.) Ltd.
- 23:04 Reinforced Earth Company, The**
Rosslyn Center
1700 North Moore Street
Arlington, Virginia 22209, USA
Ph. 703 527 34 34
Telex 230903070 Reearth
Reinforced Earth retaining wall, bridge abutments, dams, containment dikes, coal and mineral storage and handling structures and other earth retention and load supporting structures for transportation, commercial and industrial applications.
- 23:04 Reinforced Earth Company Ltd.—U.K.**
See Reinforced Earth Company, The
- 28:10 Rhone Poulenc Danmark A/S—Denmark**
See Rhone Poulenc
- 28:10 Rhone Poulenc Non Woven Department**
69 Casimir Perier Street,
P.O. Box 80, Bezons, France
Ph. (3) 982 33 40
Telex 697802 F
Repr. in Sweden: Rhone Poulenc Sverige AB, Folkungagatan 122, Box 4189,
S-102 62 Stockholm. Ph. 08 23 74 80.
Telex 11680
Geotextiles Bidim.
- 28:10 Rhone Poulenc OY—Finland**
See Rhone Poulenc
- 23:20 Rock Instruments Ltd—U.K.**
See Soil Instruments Ltd.
- S**
- 20:18 SAAS Instrument AB—Sweden**
See Troxler International, Ltd.
- 28:14 S.I.S. Geotecnica S.r.l.**
Via Roma no. 15,
20090 Segrate (MI), Italy
Ph. 0039 2 213 46 48, 213 54 01
Telex 312605 Erreci I
A complete range of photographic material and same geotechnical instruments.
- 26:14 SPS-Verken, AB—Sweden**
See Scanpile, AB
- 22:01 SWECO AB**
P.O. Box 5038, S-102 41 Stockholm
Sweden
Ph. +46 8 63 03 70
Cable Groupconsult Stockholm
Telex 17597 Sweco S
Consulting services.
- 26:14 Scanpile, AB**
P.O. Box 2025
S-300 02 Halmstad, Sweden
Ph. 035 10 90 70
Cable Scanpile
Telex 38153 Scanpil S
Joints and rockpoints for precast concrete piles.
- 26:31 Sjöo Geo-Center AB—Sweden**
See Sokkisha Co., Ltd.
- 26:02 Slope Indicator Co—USA**
See Atlas Copco ABEM AB
- 28:11 Smedjebackens Valsverks AB**
Box 501, S-777 01 Smedjebacken,
Sweden
Ph. 0240 711 20
Cable Valsverket
Telex 73214
The SW Steel Pile.
- 23:20 Soil Instruments Ltd**
Bell Lane, Uckfield, Sussex, U.K.
Ph. 08 25 50 44
Telex 95123 Solin G
Hydraulic piezometers, pneumatic piezometers, acoustic piezometers, earth pressure cells, load cells, soil strain gauges, inclinometers, hydraulic settlement gauges, pneumatic settlement gauges, automatic settlement plotters, hydrostatic profile gauges, temperature sensors.
- 23:11 Soil MEC S.r.l.**
Via Dismano 5819
Cesena, Italy
Ph. 0547 33 19 33
Cable Soil Mec Cesena Italy
Telex 550104 Smec I
Repr. in Sweden: RP Rörprodukter AB, P.O. Box 130109, S-402 52 Göteborg
Photographic panels.
- 26:31 Sokkisha Co., Ltd.**
Keio Yoyogi Building
No. 1, 1-1-Chome, Tomigaya
Shibuya-Ku, Tokyo 151, Japan
Ph. 03 465 52 11
Cable Sokkisha Tokyo
Telex J28528 Sursok

- Repr. in Sweden: Sjöö Geo-Center AB, Häradsvägen 119, S-141 02 Huddinge. Ph. 08 774 09 50
Surveying Instruments; EDM-Instruments (Electronic Distance Meters), Theodolites, Gyroscopic Theodolites, Levelling Instruments.
- 20:32 Soletanche**
6, Rue de Watford
92005 Nanterre, France
Ph. 776 42 62
Cable Soletanche Nanterre
Telex 611722 F Solet
Soils mechanics and groundwater testing equipment.
- 20:32 Soletanche Entreprise-France**
See Soletanche
- 20:32 Sol-Expert International-France**
See Soletanche
- 28:22 Stabilator AB**
S-182 25 Danderyd, Sweden
Ph. +46 8 753 02 40
Telex 11524 skanska s
Stabilator Piling System based on the ABB Pile Joint. Underpinning. Drilling. Soil Grouting. Shotcreting.
- 20:17 Strängbetong, AB-Sweden**
See Fibertex APS
- 20:17 Sulin KY, Insinöörtoimisto-Finland**
See Fibertex APS
- 22:15 Swedish Commission on Pile Research**
c/o Statens Geotekniska Institut.
S-581 01 Linköping, Sweden
Ph. 013 11 51 00
Illustrations of research results publications.
- 28:05 Swedish Geotechnical Institute (SGI)**
S-581 01 Linköping, Sweden
Ph. 013 11 51 00
Cable Geotekniska
The Swedish Geotechnical Institute (SGI) is a government agency dealing with geotechnical research, information and consultancy. The purpose of the Institute is to achieve better techniques, safety and economy in the building process. Pile Load Test. SGI has developed and has in use a flexible equipment which makes it possible to carry out load tests to a maximum load of 3 MN. The Hose Settlement Gauge and the Bellow Hose Settlement Gauge are devices for measuring vertical movements in soil. Shown is also a device for measuring the inclination of tilting structures. The Swedish Ram Probing Test with a slip coupling is a method that makes it possible to separate the skin friction along the roads. The method can also be combined with a cone point making it possible to perform a continuous dynamic probing test and intermittent static cone tests. SGI Database. Geo-
- road. Since 1976 indexed and classified bibliographic records have been stored in a database for information retrievals. The CRS-Test. Consolidation test on clay with constant rate of strain is since 1977 a standard test at SGI. The Suspended Body Test. SGI has developed the suspended body test to determine the grain size distribution of fine-grained soils.
- 23:30 Svenska Rawlplug Co AB**
Krummakargatan 24, Box 17005
S-104 62 Stockholm, Sweden
Ph. 08 69 03 00
Cable Rawlplug
Telex 17979 Rawl S
Typar Geotextile.
- 22:16 Sveriges Geologiska Undersökning, SGU**
Box 670, S-751 28 Uppsala
Sweden
Ph. 018 15 52 80
Geological maps and engineering geology.
- 25:21 T Telemac**
2 Rue Auguste Thomas
92600 Asnieres, France
Ph. (1)793 79 55
Telex 280823 Itser Service 359
Measuring instruments for civil engineering structures, such as dams, tunnels, bridges, deep underground excavations.
- 20:09 Terrafigo AB**
23:03 Kungsgatan 32
S-111 35 Stockholm, Sweden
Ph. 08 11 03 32, 11 03 34
Telex 17377
Geodrain, the band-shaped prefabricated drain for vertical drainage.
- 28:20 Terratest**
B.P. 146, CH-1012, Lausanne-Chailly
Switzerland
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Telex 24409
Testing equipment for soil & rocks + concrete & asphalt. Geophysical explorations equipment.
- 23:04 Terre Armée, La-France**
See Reinforced Earth Company, The
- 23:04 Tierra Armada, S.A.-Spain**
See Reinforced Earth Company, The
- 29:12 Toto Electric Industry Co, Ltd**
25-4, 5-chome
Ikegami Ota-ku 146
Tokyo, Japan
Ph. 03 755 21 21
- Repr. in Sweden: C. Itoh. Co., Ltd, Rålambsvägen 7, 11 tr, S-112 59 Stockholm. Ph. 08 12 08 75
One set of measuring equipment for grouting flow and pressure (model CMS-100). One set of dam grout pressure flow and controller (model FPC-100). One set of dam grout data processing system (model DKS-001 and NSS-001).
- 20:18 Troxler International, Ltd.**
P.O. Box 12057, Cornwallis Road,
Research Triangle Park
North Carolina 27709, USA
Ph. 919 549 86 61
Cable Troxelec
Telex 579474
Repr. in Sweden: SAAS Instrument AB, Elektravägen 31, P.O. Box 42115, S-126 12 Stockholm. Ph. 08 18 80 60
3411B Surface Moisture Density Gauge, 3220 Depth Moisture Gauge.
- 29:23 W WEBAC**
Vierbergen 23, D-2070 Ahrensburg
Fed. Rep. of Germany
Ph. 009 49 4102 610 57
Telex 02189809 Wedi d
Repr. in Sweden: SWEBA-Svenska Westeuropäische Bauinjektions-Chemie GmbH AB, Gretas Gata 38, S-424 55 Angered
Chemical grout for earthstability and reducing the permeability. Stabilizing. Chemical gel for watertightening. Grout for sealing rock fissures or concrete leakage.
- 22:11 Wykeham Farrance Engineering Limited**
Weston Road, Slough
SL1 4HW, U.K.
Ph. 0753 712 41
Telex 847301
Repr. in Sweden: Borros AB, Hagalundsgatan 19, S-171 03 Solna 3. Ph. 08 27 26 20
Laboratory and site testing equipment for soil mechanics.
- 20:03 Väg- och Vattenbyggaren**
Drottninggatan 88 C, Box 1334
S-111 84 Stockholm, Sweden
Ph. +46 8 24 54 50
Väg- och Vattenbyggaren and Swedish Engineering Journals, issued by the Swedish Society of Civil Engineers.

ISSMFE
THE TEN FIRST INTERNATIONAL CONFERENCES
on
SOIL MECHANICS AND FOUNDATION ENGINEERING



1. CAMBRIDGE, MASS., USA 1936
2. ROTTERDAM, NETHERLANDS 1948
3. ZURICH, SWITZERLAND 1953
4. LONDON, UNITED KINGDOM 1957
5. PARIS, FRANCE 1961
6. MONTREAL, CANADA 1965
7. MEXICO CITY, MEXICO 1969
8. MOSCOW, USSR 1973
9. TOKYO, JAPAN 1977
10. STOCKHOLM, SWEDEN 1981

(11. To be held in
SAN FRANCISCO, USA 1985)

International Society for Soil Mechanics and Foundation Engineering

Minutes of the Executive Committee Meeting Held in Oaxaca

Procès-verbal de Réunion du Comité Exécutif à Oaxaca

9th and 10th March 1979
09.00-12.30 and 13.30-17.00 each day

PRESENT	PRESIDENT	Prof. M. Fukuoka	
	VICE-PRESIDENT	Prof. W.R. Mackechnie	Africa
		-	Asia
		Mr. A.D. Hosking	Australasia
		Prof. B. Broms	Europe
		Prof. G.F. Sowers	N.America
		Prof. F. Martinez	S.America
	SECRETARY GENERAL	Prof. J.K.T.L. Nash	
<u>NATIONAL SOCIETY</u>		<u>VOTING REPRESENTATIVE</u>	<u>NON-VOTING REPRESENTATIVE</u>
Argentina		-	-
Australia		Mr. A.D. Hosking	-
Austria		Del. F.R.G.	-
Belgium		-	-
Brazil		Prof. M.L.G. Werneck	-
Bulgaria		Del. Hungary	-
Canada		Dr. J.I. Clark	Dr. Z. Eisenstein
Chile		-	-
China		Prof. Yu Tiamei	Mr. Sun Jiachi
Colombia		Del. Mexico	-
Czechoslovakia		-	-
Denmark		V-P, Europe	-
Dominican Rep.		Ing. Luis Carpio	-
Ecuador		-	-
Finland		Dr. J. Hartikainen	-
France		Prof. J. Salençon	Mr. P. Florentin
FRG		Prof. U. Smolczyk	-
GDR		Prof. Dr. Ing W. Rattay	-
Ghana		-	-
Greece		V-P, Europe	-
Hungary		Prof. G. Petrasovits	-
India		-	-
Indonesia		-	-
Iran		-	-
Ireland		-	-
Israel		-	-
Italy		V-P, Europe	-
Japan		Prof. A. Nakase	Prof. T. Akagi
Mexico		Prof. Alfonso Rico	Ing. Raúl Esquivel-Díaz
Morocco		-	-
Netherlands		Ir. E.H. de Leeuw	-
New Zealand		V-P, Australasia	-
Nigeria		Mr. L.A. Ajayi	-
Norway		Dr. K. Senneset	Prof. N. Janbu
Pakistan		-	-
Peru		-	-
Poland		-	-
Portugal		-	-
Rhodesia		Prof. W.R. Mackechnie	-
Romania		V-P, Europe	-
S.Africa		V-P, Africa	-
S.E. Asia		Del. Japan	-
Spain		Prof. J.A. Jiménez-Salas	-
Sweden		Prof. S. Hansbo	Mr. Nils Flodin
Switzerland		Del. F.R.G.	-
Syria		Mr. Farid Mawlawi	-
Turkey		-	-
United Kingdom		-	-
U.S.A.		Prof. J. Lysmer	John A. Focht, Jr.
USSR		Prof. Yu G. Trofimenkov	Dr. N. Chetyrkin
Venezuela		-	-
Yugoslavia		Prof. T. Sovinc	-

ATTENDANCE

1. In opening the Meeting the President first welcomed all those present and then warmly thanked the Mexican National Society for having invited the ISSMFE to hold their Executive Committee Meeting in Oaxaca.

Next he introduced the Vice-Presidents present:

Prof. W.R. Mackechnie	<i>Africa</i>
Mr. A.D. Hosking	<i>Australasia</i>
Prof. B. Broms	<i>Europe</i>
Prof. G.F. Sowers	<i>N.America</i>
Prof. F. Martinez	<i>S.America</i>

Prof. D. Mohan (*Asia*) apologised for his inability to be present.

Then he welcomed the Chairmen of the various Sub-Committees present:

Dr. E. D'Applonia	<i>Budget and Finance</i>
Prof. Z. Eisenstein	<i>Geomechanical</i>
	<i>Computer Programs</i>
Mr. H. Mori	<i>Soil Sampling</i>
Prof. B. Broms	<i>Penetration</i>
	<i>Testing in Europe</i>

He then gave a special welcome to the representative from the Dominican Republic, here for the first time and also to the delegates from China, represented among us for the first time since 1957.

In addition he informed the meeting that there were two observers present Dr. U. Lindblom (Sweden), Secretary General of the Organizing Committee for the Stockholm Conference, and Dr. K. Al-Hashimi (Kuwait), and he welcomed them both.

2. On taking a roll-call the Secretary General ascertained that of the 45 National Societies in good standing (and therefore entitled to vote at the meeting) some 33 had voting representatives present. There was therefore not only a quorum (one-third required) but also sufficient for changes to be made in the Statutes (two-thirds required).

MEMBERSHIP

3. The ISSMFE membership at 1st February 1979 is shown in Appendix 1 and the following National Societies are at present in bad standing: Argentina, Chile, Ecuador, Israel, Morocco, Pakistan and Peru.
4. The Secretary General said that enquiries about the formation of National Societies had been received from Paraguay and Costa Rica.

PARTICIPATION

1. En ouvrant la réunion, le Président souhaite d'abord la bienvenue à toutes les personnes présentes et remercie chaleureusement la Société Nationale Mexicaine d'avoir invité la Société Internationale à tenir la réunion de son Comité Exécutif à Oaxaca.

Puis, il présente les Vice-Présidents présents:

Prof. W.R. Mackechnie	<i>Afrique</i>
Mr. A.D. Hosking	<i>Australasie</i>
Prof. B. Broms	<i>Europe</i>
Prof. G.F. Sowers	<i>Amérique du Nord</i>
Prof. F. Martinez	<i>Amérique du Sud</i>

Le Prof. D. Mohan (*Asie*) s'est excusé de ne pouvoir assister à la réunion.

Ensuite, il souhaite la bienvenue aux Présidents de divers sous-comités présents:

Dr. E. D'Applonia	<i>Budget et Finances</i>
Prof. Z. Eisenstein	<i>Programmes de</i>
	<i>calculs géoméch-</i>
	<i>aniques</i>
Mr. H. Mori	<i>Echantillonnage</i>
	<i>des sols</i>
Prof. B. Broms	<i>Essais de pénétr-</i>
	<i>ation en Europe</i>

Puis, il s'adresse spécialement au Représentant de la République Dominicaine, présent pour la première fois, ainsi qu'aux délégués de la Chine, représentée auprès de nous pour la première fois depuis 1957.

Il ajoute que deux observateurs sont présents: le Dr. U. Lindblom (Suède), Secrétaire Général du Comité d'Organisation du Congrès de Stockholm et le Dr. K. Al-Hashimi (Koweït): il leur souhaite la bienvenue à tous deux.

2. En faisant l'appel, le Secrétaire Général constate que sur les 45 Sociétés Nationales en situation régulière (et par suite habilitées à voter à la réunion), 33 ont un représentant présent pouvant voter. Ce nombre ne constitue pas seulement un quorum (1/3 est nécessaire) mais il suffit aussi pour modifier les statuts (les 2/3 sont nécessaires).

LISTE DES MEMBRES

3. La liste des membres de la Société Internationale au 1er Février 1979 figure à l'annexe 1 et les Sociétés Nationales suivantes sont, à l'heure actuelle, en situation irrégulière: Argentine, Chili, Equateur, Israël, Maroc, Pakistan et Pérou.
4. Le Secrétaire Général dit qu'il a reçu des demandes de constitution de Sociétés Nationales du Paraguay et de Costa Rica.

STATUTES

5. The Secretary General outlined the history of the Society's present Statutes which have remained almost unchanged for the past ten years, and gave reasons why a complete re-draft had been considered desirable at the present time. The President then asked him to introduce the proposals and these were discussed paragraph by paragraph. The agreed version is shown as Appendix 2.

6. The proposal from Finland that English should become the sole official language of the ISSMFE was preceded by a suggestion from the Secretary General that this matter was too important to many National Societies to decide without longer notice having been given. It was therefore agreed that no change should be made before the next meeting of the Executive Committee in Stockholm in 1981 and that French would therefore be used at that conference, irrespective of any discussions at the present meeting.

7. Prof. Hansbo requested that for the Executive Committee meeting it should not be obligatory for the host National Society to provide simultaneous translation English/French. This is not precisely demanded by the present Statutes and it was agreed that although we should continue to use English and French at the Executive Committee meetings the provision of simultaneous translation should not be obligatory.

8. Dr. Hartikainen then presented the Finnish proposals and Prof. Salençon put the French defence of the French language. Other speakers were Dr. Clark, Prof. Mackechnie, Prof. Hansbo, Ir. de Leeuw, Dr. Werneck, Mr. Rico.

It was realised that the provision of simultaneous translation is extremely expensive (it cost \$96,000 at Tokyo and was estimated at \$60,000 for Stockholm). Some thought that English should be the sole language for printed papers but that simultaneous translation (possibly increasing the number from two to three or four languages) should be provided for those who wished to speak. It was also suggested that one-way translation (into English) might be an alternative solution.

As agreed, no vote was taken on this matter but amongst those who spoke there was evidently considerable support for the retention of French.

9. The Italian proposals to have Supporting Members of the ISSMFE in addition to the present types of members was given careful consideration. It was realised that

STATUTS

5. Le Secrétaire Général fait un rapide historique des statuts actuels de la Société qui sont restés presque inchangés au cours des dix dernières années et donne les raisons pour lesquelles une refonte complète est considérée, actuellement, comme souhaitable. Le Président lui demande alors de présenter le texte proposé qui est discuté paragraphe par paragraphe. La version adoptée figure à l'annexe 2.

6. L'exposé de la proposition de la Finlande tendant à faire de l'anglais la seule langue officielle de la Société Internationale est précédé par une suggestion du Secrétaire Général pour qui cette question est trop importante pour beaucoup de Sociétés Nationales pour être tranchée sans qu'elles en aient été informées suffisamment longtemps à l'avance. Il est, en conséquence, décidé de ne rien changer avant la prochaine réunion du Comité Exécutif à Stockholm en 1981 et, par suite, de maintenir le français à ce Congrès sans tenir compte des discussions de la présente réunion.

7. Le Prof. Hansbo demande que, pour la réunion du Comité Exécutif, il ne soit pas fait obligation à la Société Nationale invitante de prévoir la traduction simultanée anglais - français. Ceci n'est pas expressément demandé par les présents statuts et il est décidé que, bien que l'on puisse continuer à parler anglais et français aux réunions du Comité Exécutif, la traduction simultanée ne sera pas obligatoire.

8. Le Dr. Hartikainen présente alors la proposition finlandaise et le Prof. Salençon expose les arguments de la France pour la défense de la langue française. D'autres participants prennent la parole: le Dr. Clark, le Prof. Mackechnie, le Prof. Hansbo, Mr. de Leeuw, le Dr. Werneck, Mr. Rico.

Il est indiqué que la traduction simultanée coûte extrêmement chère (elle a coûté 96000\$ à Tokyo et elle est estimée à 60000\$ à Stockholm). Quelques personnes pensent que l'anglais devrait être la seule langue admise pour les communications écrites, mais que la traduction simultanée (avec possibilité de porter le nombre de langues de deux à trois ou quatre) devrait être prévue pour ceux qui souhaitent prendre la parole. Il est aussi suggéré qu'une traduction dans un seul sens (en anglais) pourrait être une autre solution.

Il est décidé qu'aucun vote n'interviendra sur cette question mais, chez ceux qui ont pris la parole, apparaît à l'évidence un soutien considérable au maintien du français.

9. La proposition italienne d'avoir des membres adhérent directement à la Société Internationale en plus des types de membres actuels est prise en considération avec attention.

this would increase somewhat the income of the Society and as such would be welcome, but it was thought that it could also reduce the effectiveness of many of the National Societies which at present have such members themselves. The proposal was not therefore accepted.

10th March

ARRANGEMENTS FOR 10TH ICSMFE

10. Prof. Hansbo, Chairman of the Organizing Committee for the 1981 Stockholm Conference introduced the proposed programme for the technical sessions for the Conference and Dr. Lindblom spoke of the general arrangements. A sample of how Bulletin No. 1 would look was shown to the Committee.

These were approved and the Swedish delegates were congratulated on the progress of their plans to date and were given best wishes for the remainder of their work leading up to the Conference.

VOL. IV FOR TOKYO CONFERENCE PROCEEDINGS

11. Prof. Nakase announced that the Japanese Organising Committee was planning to publish a volume of well documented case histories. This would appear in about a year's time, uniform in format with the Tokyo proceedings, and would be sent free of charge to those who had registered for that conference. The Executive Committee warmly thanked the Japanese Society for this generous action.

ISSMFE ACCOUNTS

12. The Secretary General presented the audited Receipts and Payments Account for the year ended 28th February 1978 which are shown as Appendix 3. He also indicated the receipts and payments which related to the year ended 28th February 1979, though these had as yet not been audited.

The V-P North America proposed and the V-P Africa seconded that the accounts be approved and this was agreed.

FUTURE ACTIVITIES OF THE SOCIETY

13. Prof. Martinez spoke of the concern which had been expressed in some parts of the world about the service which the ISSMFE offers to its members and recognised that we were unable to operate on the scale which we might like, due to our restricted funds.

Dr. D'Appolonia, Chairman of the Budget and Finance Committee, considered that 43 years after our foundation we ought

Il est indiqué que cette mesure pourrait accroître quelque peu les revenus de la Société et, comme telle, serait la bienvenue, mais il est estimé qu'elle pourrait aussi réduire les effectifs de nombreuses Sociétés Nationales qui ont actuellement elles-mêmes de tels membres. C'est pourquoi la proposition n'est pas adoptée.

10 Mars

ORGANISATION DU 10EME CONGRES

10. Le Prof. Hansbo, Président du Comité d'Organisation du Congrès de Stockholm en 1981, présente le programme proposé pour les séances techniques du Congrès et le Dr. Lindblom parle de l'organisation générale. Un projet de Bulletin No 1 est présenté au Comité.

Ces dispositions sont approuvées. Les délégués suédois sont félicités pour l'état d'avancement de leurs projets et les meilleurs souhaits du Comité les accompagnent pour les tâches qu'il leur reste à accomplir jusqu'au congrès.

VOL. IV DES COMPTES RENDUS DU CONGRES DE TOKYO

11. Le Prof. Nakase annonce que le Comité d'Organisation japonais se propose de publier un volume de cas concrets bien documentés. Ce volume paraîtrait dans un an environ dans le même format que les comptes rendus de Tokyo et serait envoyé gratuitement à tous les participants au Congrès. Le Comité Exécutif remercie chaleureusement la Société japonaise pour cette généreuse initiative.

COMPTES DE LA SOCIETE INTERNATIONALE

12. Le Secrétaire Général présente les comptes apurés des recettes et des dépenses pour l'exercice ayant pris fin le 28 Février 1978, qui figurent à l'annexe 3. Il indique également les recettes et dépenses se rapportant à l'exercice ayant pris fin le 28 Février 1979, bien que ces dernières n'aient pas encore été apurées. Le représentant de l'Amérique du Nord, appuyé par celui de l'Afrique, propose que ces comptes soient approuvés et cette proposition est adoptée.

ACTIVITES FUTURES DE LA SOCIETE

13. Le Prof. Martinez parle de la préoccupation qui a été exprimée dans diverses parties du monde en ce qui concerne les services offerts par la Société Internationale à ses membres et reconnaît que nous ne sommes pas en mesure d'opérer sur l'échelle que nous souhaiterions, en raison de la limitation de nos ressources. Le Dr. D'Appolonia, Président de la Commission du Budget et des Finances, considère que 43 ans après notre fondation, nous devrions

to be able to do better. Our Sub-Committees move too slowly and are often not too effective in their work. We have great skill and knowledge in our membership and many such retired members would be only too willing to give their services by lectures and seminars in the developing countries were the money available to pay merely their travel and expenses. We need about \$100,000 annually to operate on an appropriate scale. The Secretary General should be adequately compensated for the work he does (and this is not so at present) and we must make appropriate plans for the future. An appropriate budget might be:

Expenses

Secretary General (full time)	\$45000	(\$30000-60000)
Supporting Staff (full time)	\$12000	
Running expenses	\$18000	
Sub-Committee activities: lectures for developing countries, etc	\$25000	
	\$100000	

Receipts

Surcharges on symposia, International and Regional Conferences	\$15000	
Professional cards in List of Members	\$ 2000	
Exhibits	\$ 5000	\$22000
Group Number fee of member countries 4.5 (average) - \$75	\$18000	
Travel and out-of-pocket expenses by host countries and support of National Societies for special events, lectures, seminars, etc.	\$10000	
Individual and corporate member fees	\$50000	\$78000
TOTAL		\$100000

The proposed increase in dues from \$1.00 per member to (say) \$4.00 may sound drastic but in relation to current normal day-to-day expenses it is trivial. It is essential for our future that we do not fail our membership.

14. Mr. Mawlawi, on behalf of the Budget and Finance Committee, proposed that the Secretary General should be authorised to open a bank account in Switzerland and to send the National Societies the bill for their dues in Swiss francs. Regular transfers could then be made to the present bank account with Barclays Bank Limited in London. This was seconded by Professor Sowers and

être capables de faire mieux. Nos sous-comités travaillent trop lentement et ne sont souvent pas assez efficaces dans leur travail. Nous disposons d'un grand capital d'habileté et de connaissance parmi nos membres et beaucoup de membres retraités seraient volontaires pour donner leurs services sous forme de conférences et de séminaires dans des pays en voie de développement, à condition de disposer seulement de l'argent nécessaire à payer leur voyage et leurs frais de séjour. Nous aurions besoin de 100000\$ annuellement pour travailler à une échelle convenable. Le Secrétaire Général devrait être convenablement dédommagé pour le travail qu'il fournit (ce qui n'est pas le cas actuellement) et nous devrions prendre des dispositions appropriées pour l'avenir. Un budget convenable pourrait être le suivant:

Dépenses

Secrétaire Général (à plein temps)	\$45000	(\$30000-60000)
Secrétariat (à plein temps)	\$12000	
Dépenses courantes	\$18000	
Activités des sous-comités (conférences dans des pays en voie de développement, etc...)	\$25000	
	\$100000	

Recettes

Taxes sur les symposia, congrès internationaux et conférences régionales	\$15000	
Encarts professionnels dans la liste des membres	\$ 2000	
Expositions	\$ 5000	\$22000
Cotisation de groupe des pays membres 4.5 (environ) - \$75	\$18000	
Voyages et menues dépenses payés par les pays invitants et contribution des Sociétés Nationales pour événements spéciaux, conférences, séminaires, etc...	\$10000	
Cotisation des membres individuels et collectifs	\$50000	\$78000
TOTAL		\$100000

L'augmentation proposée des cotisations de 1\$ par membre à (disons) 4\$ peut paraître élevée, mais elle est banale si on la compare au cours normal des dépenses quotidiennes. Il est essentiel, pour notre avenir, que nous ne laissions pas se dégrader le niveau de nos cotisations.

14. M. Mawlawi, intervenant au nom du Comité du Budget et des Finances, propose que le Secrétaire Général soit autorisé à ouvrir un compte bancaire en Suisse et à envoyer aux Sociétés Nationales les factures des sommes dues par elles en francs suisses. Des transferts réguliers pourraient alors être effectués au compte bancaire actuel ouvert à la Barclays Bank

on taking a vote was approved without dissent.

15. It was agreed that Barclays Bank Limited and Barclays International Bank Limited should be re-appointed our London Banks.

INCREASE IN ANNUAL DUES FROM 1980

16. It was therefore agreed that the second sentence in the new Statute No. 53 should be amended to read

"From 1st January, 1980, the amount was fixed by the Executive Committee (meeting in Oaxaca in 1979) at:

sFr. 4.00 per member plus
sFr. 150.00 x Group Number"... etc.

as a first step in increasing our budget.

17. The vision seen by Professor Martinez and Dr. D'Appolonia was generally supported by Mr. Alfonso Rico and the President and the Vice-President for Australasia outlined the bad feeling in New Zealand about what the ordinary member receives for his dues. Prof. Lysmer hoped that we would not limit our new activities to work in developing countries: the developed countries must also maintain their momentum and must not be forgotten.

Mr. Mawlawi suggested that our Sub-Committees would become much more effective if money for attending meetings were to be available and this was supported by Mr. Mori. Mr. Flodin wondered if money for aid to developing countries might not be obtained from UNESCO and the Secretary General agreed to make enquiries about this in Paris.

It was evident that the Executive Committee wanted to support the proposed increased activity but felt that the Mexican proposals should be carefully evaluated by the Budget and Finance Committee before the Stockholm Executive Committee and Mr. Alfonso Rico graciously agreed to the matter being handled in this way.

18. Prof. Sowers considered that the U.S. proposals should be debated further on this occasion as they concerned attendance at conferences and would be of particular relevance at Stockholm. The U.S.S.R. delegation was unhappy, however, about the proposed surcharge of \$100 for attending non-members, and Mr. de Leeuw suggested that it might be done on a sliding scale relating to the Group Number of the person's country of residence. Prof. Salençon pointed out that this would be complicated for persons living in a country having no National Society and Prof. Broms favoured a straight surcharge (which could be expressed as a discount for members rather than a surcharge for non-members, but this idea was not accepted).

Limited à Londres. Cette proposition est appuyée par le Prof. Sowers et votée sans opposition.

15. Il est décidé que la Barclays Bank Limited et la Barclays International Bank Limited doivent être confirmées comme nos banques londoniennes.

AUGMENTATION DES COTISATIONS ANNUELLES A PARTIR DE 1980

16. Il est donc décidé que la seconde phrase de l'article 53 des nouveaux statuts sera amendée comme suit:

"A compter du 1er Janvier 1980, le montant a été fixé par le Comité Exécutif (réunion de Oaxaca en 1979) à:

Francs Suisses 4.00 par membre plus
Francs Suisses 150.00 x le numéro
de groupe ... etc, "
comme première étape dans l'accroissement de notre budget.

17. Les vues du Prof. Martinez et du Dr D'Appolonia sont entièrement appuyées par Mr Alfonso Rico et le Président tandis que le Vice-Président pour l'Australasie évoque la mauvaise opinion des Néo-Zélandais sur ce que le membre ordinaire reçoit pour sa cotisation. Le Prof. Lysmer souhaite que nous ne limitions pas nos activités à travailler dans les pays en voie de développement: les autres pays doivent aussi maintenir leur activité et ne doivent pas être oubliés. M. Mawlawi suggère que nos sous-comités deviennent beaucoup plus efficaces si l'argent nécessaire pour assister aux réunions est disponible et ce point de vue est appuyé par M. Mori. M. Flodin s'étonne que l'argent nécessaire pour aider les pays en voie de développement ne puisse pas être obtenu de l'UNESCO et le Secrétaire Général est habilité à faire les démarches nécessaires à Paris. Il est évident que le Comité Exécutif désire soutenir la proposition de l'accroissement d'activité mais il estime que les propositions mexicaines devraient être soigneusement évaluées par le Comité du Budget et des Finances avant le Comité Exécutif de Stockholm et M. Alfonso Rico accepte aimablement que l'étude de cette question soit poursuivie dans ce sens.

18. Le Prof. Sowers considère que les propositions des Etats-Unis doivent continuer à être discutées à cette occasion en ce qui concerne la participation aux Congrès et doivent faire l'objet d'un rapport particulier à Stockholm. La délégation soviétique n'est, cependant, pas satisfaite de la majoration de 100\$ proposée pour la participation des non-membres et M. de Leeuw suggère qu'elle puisse être fixée selon une échelle mobile en fonction du numéro de groupe du pays où réside les personnes intéressées. Le Prof. Salençon objecte que ce système serait compliqué pour les personnes vivant dans un pays n'ayant pas de Société Nationale et le Prof. Broms est favorable à une

majoration directe (qui pourrait être exprimée sous forme d'un rabais pour les membres plutôt que d'une majoration pour les non-membres) mais cette idée n'est pas adoptée.

19. On behalf of the U.S. Committee Prof. Lysmer then suggested alternative proposals as follows:

- (i) a surcharge be imposed on registration fees for and the cost of proceedings from International and Regional Conferences of ISSMFE.
- (ii) this surcharge should be applied to individuals who have not been members in good standing of the ISSMFE during the last two years prior to the conference in question (Libraries, technical societies, individuals from countries without a national society are exempted).
- (iii) the surcharge should be set as a percentage of costs to members computed from the formula
$$\frac{GN-L}{H-L} \times 35\%$$
where GN is the group number of the individual's country of residence and H and L the highest and lowest group number, respectively, of the member countries of ISSMFE.
- (iv) For administration purposes it is proposed that the surcharge to non-members from different countries be published as a table in the bulletins of the conference.
- (v) The anticipated income from these surcharge fees should be included in the Conference Budget but kept on one side and considered as an emergency fund which could be returned to the ISSMFE should the conference make a profit.

20. Dr. Werneck then proposed an amendment, which was seconded by Dr. Clark, that the first line of the U.S. proposal should read

- (i) "a surcharge of 10% be imposed", etc..
- and that items (iii) and (iv) should be deleted. This was agreed.

Prof. Broms then proposed that paragraph (v) of the U.S. proposal should read as follows:

"the income from these surcharge fees should be turned over to the International Society"

and this was agreed.

19. Au nom du comité américain, le Prof. Lysmer formule alors, en variante, les propositions suivantes:

- (i) une majoration serait imposée sur les droits d'inscription et le coût des comptes rendus des Congrès internationaux et des conférences régionales de la Société Internationale,
- (ii) cette majoration serait appliquée aux membres individuels qui n'ont pas été membres de la Société Internationale en situation régulière pendant les deux dernières années précédant la conférence en cause (les bibliothèques, les Associations techniques et les membres individuels de pays n'ayant pas de Sociétés Nationales en seraient exemptés),
- (iii) la majoration pourrait être fixée en pourcentage des dépenses et calculée par la formule:
$$\frac{GN-L}{H-L} \times 35\%$$
où GN est le numéro de groupe du pays où réside le membre individuel intéressé et H et L le numéro de groupe le plus élevé et le plus bas des pays membres de la Société Internationale,
- (iv) Dans un but de bonne administration, il est proposé que la majoration applicable aux non-membres des différents pays soit publiée sous forme d'une table dans les bulletins de la conférence,
- (v) les ressources attendues de ces majorations des droits d'inscription seraient incluses dans le budget de la Conférence, mais mises de côté et considérées comme un fonds de secours qui pourrait être ristourné à la Société Internationale au cas où la conférence réaliserait un bénéfice.

20. Le Dr Werneck propose alors en amendement, qui est soutenu par le Dr Clark, à savoir que la première ligne de la proposition américaine devrait être:

- (i) "une majoration de 10% serait imposée" etc...

et que les paragraphes (iii) et (iv) devraient être supprimés. Cet amendement est adopté.

Le Prof. Broms propose alors que le paragraphe (v) de la proposition américaine soit rédigée comme suit:

"le produit de ces majorations des droits d'inscription doit être ristourné à la Société Internationale".

Cette proposition est adoptée.

ESTABLISHMENT OF TECHNICAL OPERATIONS FUND

21. Dr. Clark then made the following proposals on behalf of the Canadian Geotechnical Society:

- (i) The establishment of a Technical Operations Fund - to sponsor lecture tours by eminent engineers (as per Dr. E. D'Appolonia's suggestion). The fund should be administered by the Budget and Finance Sub-Committee. The selection of distinguished lecturers and the countries they should visit may require a Task Force or perhaps it can be through the office of the Secretary General.

The Canadian Society will attempt to obtain funds from Canadian Geotechnical Funds to serve as "seed money" and other National Societies may wish to contribute to it. If funds cannot be provided from the Geotechnical Fund (controlled by the National Research Council of Canada - the Canadian Society will be looking for \$15000 to \$20000) then the National Society will provide a lesser amount (say \$3000) to get the activity rolling.

- (ii) The Sponsorship of Lecture Tours by National Societies - The CGS will undertake to sponsor a lecture tour of a country or countries where the technology is in the development stage. The lecture tour would be an annual event. It would be paid for and administered by CGS. The Lecturers might be Canadian or members of other National Societies as advised by President and General Secretary ISSMFE. Other National Societies of countries with advanced state of technology may wish to undertake a similar program.

The implication for the CGS is that they will have only one tour internally each year instead of two, and would allocate one of their approved tours to one or more developing countries.

The Executive Committee was immensely grateful to the Canadians for these most generous offers and accepted them with great warmth.

ETABLISSEMENT D'UN FONDS DES OPERATIONS TECHNIQUES

21. Le Dr Clark fait alors les propositions suivantes au nom de la Société Géotechnique Canadienne:

- (i) Etablissement d'un Fonds des Opérations Techniques pour promouvoir des tournées de conférences par d'éminents ingénieurs (comme le suggère le Dr D'Appolonia). Le fonds devrait être géré par le sous-comité du Budget et des Finances. Le choix des conférenciers et des pays dans lesquels ils devraient se rendre pourrait nécessiter une "Task Force" ou pourrait, peut-être, être fait par les soins du Secrétaire Général.

La Société Canadienne essaiera d'obtenir une contribution du Fonds Géotechnique Canadien pour constituer une première mise et d'autres Sociétés Nationales pourraient souhaiter y participer. Si le Fonds ne peut pas être approvisionné par le Fonds Géotechnique (contrôlé par le Conseil National de la Recherche du Canada - la Société Canadienne espère pouvoir obtenir 15000\$ à 20000\$) alors la Société Nationale verserait une somme plus faible (disons 3000\$) pour constituer un fonds de roulement.

- (ii) Promotion de Tournées de Conférences par des Sociétés Nationales - La Société Géotechnique Canadienne se chargera de promouvoir une tournée de conférences dans un ou des pays où la technologie est en voie de développement.

La tournée des conférences aurait une fréquence annuelle. Elle serait financée et organisée par la Société Géotechnique Canadienne. Les conférenciers pourraient être canadiens ou membres d'autres Sociétés Nationales comme le conseillerait le Président ou le Secrétaire Général de la Société Internationale. D'autres Sociétés Nationales de pays se trouvant dans un stade avancé de technologie pourraient souhaiter entreprendre un programme analogue.

Le problème, pour la Société Canadienne, est qu'elle n'organise qu'un seul voyage interne par an au lieu de deux et devrait consacrer un de ces voyages à un ou plusieurs pays en voie de développement.

Le Comité Exécutif est infiniment reconnaissant aux Canadiens pour leurs offres généreuses et les accepte avec beaucoup de chaleur.

VICE-PRESIDENTS' REPORTS

22. Verbal reports on the activities in their Regions were then given by the Vice-Presidents. Prof. Mackechnie referred to the difficulties in communicating with the various National Societies within his Region and how this had sometimes to be done through the Secretary General's office in London. He encouraged all National Societies to support the 7th African Regional Conference. Mr. Hosking made the point that for their size (which is very reasonable when considered in terms of the overall population of the Region) Soil Mechanics in Australia and New Zealand was flourishing and he referred to the continuing demand in Australia for a computer users service following the laying down of the ISSMFE Sub-Committee. Prof. Broms surveyed the many conferences and lectures which have taken place in Europe, East and West, since the Tokyo meeting, and referred to the planning for the forthcoming Stockholm Conference. Prof. Sowers was able to point to similar considerable activity in North America and Prof. Martinez the same for South America. It was recognised that Prof. Mohan would have been able to provide similar statistics for Asia had he been present.

The Executive Committee looked forward to receiving fuller written reports from the Vice-Presidents at the Stockholm Executive Committee Meeting.

COMMITTEE STRUCTURE AND REPORTS

23. The President reported that he had set up the following Sub-Committees:

- (i) 1981 Conference Advisory Committee
- (ii) Budget and Finance Committee
- (iii) List of Members
- (iv) Geomechanical Computer Programs
- (v) Information Advisory Committee
- (vi) European Committee on Penetration Testing
- (vii) Site Investigation
- (viii) Soil Sampling
- (ix) Symbols and Units Committee

The President said that he would be setting up a further committee

- (x) Field and Laboratory Soil Testing Committee

under the chairmanship of Dr. Smoltczyk.

The Vice-President for South America then proposed that we should have yet a further committee

- (xi) Research Co-operation Committee

which would guide and foster research co-operation between the developed and developing countries and the President was happy to agree to this. He also

RAPPORTS DES VICE-PRESIDENTS

22. Des rapports verbaux sur les activités de leurs régions sont alors présentés par les Vice-Présidents. Le Prof. Mackechnie évoque les difficultés de communication de sa région avec les diverses Sociétés Nationales et la manière dont cette communication a dû être parfois réalisée par les soins du bureau du Secrétaire Général à Londres. Il encourage toutes les Sociétés Nationales à aider au succès de la 7ème Conférence Régionale Africaine. M. Hosking indique que pour la taille de sa Société (qui est très satisfaisante si on la rapporte à la population totale de sa région) la mécanique des sols en Australie et en Nouvelle-Zélande est florissante et il rappelle la demande permanente de l'Australie d'un service d'utilisateurs de l'ordinateur, à la suite de la mise en sommeil du sous-comité de la Société Internationale. Le Prof. Broms récapitule les nombreux congrès et conférences qui ont eu lieu en Europe, à l'Est et à l'Ouest, depuis le Congrès de Tokyo et rappelle l'organisation du prochain Congrès de Stockholm. Le Prof. Sowers peut indiquer une activité considérable analogue en Amérique du Nord et le Prof. Martinez de même pour l'Amérique du Sud. Il est reconnu que le Prof. Mohan serait en mesure de présenter des statistiques analogues pour l'Asie, s'il était présent.

Le Comité Exécutif insiste dès maintenant pour recevoir des rapports écrits plus complets des Vice-Présidents à la réunion du Comité Exécutif de Stockholm.

STRUCTURE DES COMITES ET RAPPORTS

23. Le Président expose qu'il a mis en place les sous-comités suivants:

- (i) Comité Consultatif pour le Congrès de 1981
- (ii) Comité du Budget et des Finances
- (iii) Liste des membres
- (iv) Programmes de calculs géomécaniques
- (v) Comité Consultatif pour l'information
- (vi) Comité Européen pour les essais de pénétration
- (vii) Reconnaissance des sols
- (viii) Echantillonnage des sols
- (ix) Comité des Symboles et Unités

Le Président dit qu'il voudrait créer le comité suivant:

- (x) Comité pour les essais de sols in situ et en laboratoire

sous la présidence du Dr Smoltczyk.

Le Vice-Président pour l'Amérique du Sud propose alors que nous ayons encore le comité suivant:

- (xi) Comité de coopération de la Recherche

qui guiderait et encouragerait la coopération dans le domaine des recherches entre les pays développés et ceux en voie de développement. Le Président est heureux

agreed to consider at any time representations about the membership.

A list of the Sub-Committees, with their terms of reference and membership is given in Appendix 4.

24. The Secretary General reported that he had received a letter from Prof. de Beer apologising that he could not be present, and the Secretary General then referred to a few particular items in the written report which Prof. de Beer had prepared and said that a further report would be circulated with the papers for the Stockholm meeting.

25. The Chairmen of the following Sub-Committees then reported verbally:

- (i) Soil Sampling Committee - Mr. H. Mori
- (ii) Geomechanical Computer Programs Committee - Prof. Z. Eisenstein
- (iii) Information Advisory Committee - Dr. Clark on behalf of Dr. Shields
- (iv) European Committee on Penetration Testing - Prof. Broms.

The report of the Geomechanical Computer Programs Committee is attached to these Minutes as Appendix 5 and its recommendations were accepted. Nevertheless the committee was asked to continue with its work.

Mr. Flodin asked for the approval of certain changes in the IGC classification system. These are shown in Appendix 6 and were approved.

Prof. Nash spoke of the plans of the List of Members Committee to link the advertisements with those in the Products Catalogue to be produced for the Stockholm Conference. There might also be professional cards. This would provide the funds to finance the 1981 List and the plan was approved.

26. The Secretary General agreed to continue in office for the next two years and this was approved.

CO-OPERATION WITH OTHER BODIES

27. The Secretary General reported that he had been in correspondence with the Secretary of the Netherlands Standardization Institute in connection with International Standards on Foundations and that we would be co-operating with his committee on this subject.

28. The President once more thanked Mr. Alfonso Rico and the Mexican Society for their wonderful hospitality and this was endorsed with acclamation.

The meeting closed at 7.00 p.m.

Signed in and on behalf of
the Executive Committee
M. FUKUOKA President

de donner son accord. Il accepte aussi d'examiner à n'importe quel moment le problème de la composition de ces comités.

Une liste des sous-comités avec l'indication de leur objet et leur composition figure à l'annexe 4.

24. Le Secrétaire Général expose qu'il a reçu une lettre du Prof. de Beer s'excusant de ne pouvoir être présent et le Secrétaire Général se réfère alors à quelques paragraphes particuliers du rapport écrit que le Prof. de Beer a préparé et précise qu'un autre rapport sera envoyé avec les communications pour la réunion de Stockholm.

25. Les Présidents des sous-Comités suivants présentent alors leur rapport verbalement:

- (i) Comité d'échantillonnage des sols : M. Mori
- (ii) Comité des programmes de calculs géomécaniques: Prof. Z. Eisenstein
- (iii) Comité consultatif de l'information: Dr Clark au nom du Dr Shields
- (iv) Comité Européen des essais de pénétration: Prof. Broms

Le rapport du Comité des programmes de calculs géomécaniques fait l'objet de l'annexe 5 au présent compte-rendu et ses recommandations sont adoptées. Néanmoins, le Comité est prié de poursuivre sa tâche.

M. Flodin demande l'approbation de certaines modifications dans le système de classification IGC. Elles figurent à l'annexe 6 et sont approuvées.

Le Prof. Nash parle des projets du Comité de la liste des membres pour insérer des annonces avec ces listes dans le catalogue de produits qui doit être réalisé pour le Congrès de Stockholm. Ces annonces pourraient être aussi des encarts professionnels. Cette mesure procurerait des fonds pour financer la liste 1981. Ce projet est approuvé.

26. Le Secrétaire Général accepte de rester en fonction au cours des deux années à venir. Ceci est approuvé.

COOPERATION AVEC D'AUTRES GROUPEMENTS

27. Le Secrétaire Général indique qu'il a été en correspondance avec le Secrétaire de l'Institut Néerlandais de Standardisation en liaison avec les Standards Internationaux sur les Fondations et qu'il voudrait coopérer avec ce comité sur ce sujet.

28. Le Président remercie une fois de plus M. Alfonso Rico et la Société Mexicaine pour leur admirable hospitalité et ces remerciements sont confirmés par applaudissements.

La séance est levée à 19 h.

Signé au nom du Comité Exécutif
M. FUKUOKA
Président

ISSMFE MEMBERSHIP AT 1ST FEBRUARY 1979

Total	National Society	Europe	Asia	Africa	North America	South America	Australasia	Total
93	ARGENTINA					93		93
179	AUSTRALIA						179	179
59	AUSTRIA	59						59
99	BELGIUM	99						99
117	BRAZIL					117		117
92	BULGARIA	92						92
920	CANADA				920			920
23	CHILE					23		23
100	CHINA		100					100
54	COLOMBIA					54		54
35	CZECHOSLOVAKIA	35						35
186	DENMARK	186						186
43	DOMINICAN REP.					43		43
44	ECUADOR					44		44
170	FINLAND	170						170
817	FRANCE	817						817
634	FRG	634						634
22	GDR	22						22
29	GHANA			29				29
85	GREECE	85						85
25	HUNGARY	25						25
170	INDIA		170					170
58	INDONESIA		58					58
30	IRAN		30					30
2	IRELAND	2						2
119	ISRAEL		119					119
975	ITALY	975						975
642	JAPAN		642					642
410	MEXICO				410			410
109	MOROCCO			109				109
166	NETHERLANDS	166						166
225	NEW ZEALAND						225	225
26	NIGERIA			26				26
271	NORWAY	271						271
16	PAKISTAN		16					16
59	PERU					59		59
110	POLAND	110						110
218	PORTUGAL	218						218
221	RHODESIA			221				221
27	ROMANIA	27						27
482	SOUTH AFRICA			482				482
220	S.E. ASIA		220					220
346	SPAIN	346						346
330	SWEDEN	330						330
212	SWITZERLAND	212						212
11	SYRIA		11					11
47	TURKEY	47						47
753	UNITED KINGDOM	753						753
1000	U.S.A.				1000			1000
356	USSR	356						356
199	VENEZUELA					199		199
86	YUGOSLAVIA	86						86
	National Societies	25	9	5	3	8	2	52
	Members	6123	1366	867	2330	632	404	11722

STATUTES OF THE INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING
approved at meetings of the Executive Committee held at Oaxaca, Mexico, in 1979

NAME

1. The name of the Society is: International Society for Soil Mechanics and Foundation Engineering (ISSMFE): in French: Société Internationale de Mécanique des Sols et de Travaux de Fondations (SIMSTF).

NOM

1. Le nom de la Société est: International Society for Soil Mechanics and Foundation Engineering (ISSMFE) - en français: Société Internationale de Mécanique des Sols et des Travaux de Fondations (SIMSTF).

AIM

2. The aim of the Society is the promotion of international cooperation among engineers and scientists for the advancement of knowledge in the field of soil mechanics and its practical applications, and in the civil engineering applications of geology, and of rock, snow and ice mechanics.
3. The Society will accomplish its aim
 - (a) by holding an international conference about every four years,
 - (b) by holding Executive Committee meetings at the time of the international conferences and, if required, at a suitable time between conferences,
 - (c) by promoting regional conferences and other meetings at intervals,
 - (d) by cooperation with other organizations, national and international, whose aims are complementary to those of the Society,
 - (e) by interchange of information among its National Societies, including publication of lists of members and other documents,
 - (f) by promoting the publication of literature abstracts,
 - (g) by the establishment of technical and other sub-committees.

OBJET

2. Le but de la Société est de promouvoir une coopération internationale parmi les Ingénieurs et les Chercheurs pour faire progresser les connaissances dans le domaine de la mécanique des sols et de ses applications pratiques et dans celui des applications au Génie Civil de la géologie et de la mécanique des roches, de la neige et de la glace.
3. La Société atteindra son objet:
 - (a) en tenant des conférences internationales, environ tous les quatre ans,
 - (b) en tenant des réunions du Comité Exécutif à chaque Conférence Internationale et, si nécessaire, en temps voulu entre les conférences,
 - (c) en provoquant des conférences régionales et d'autres réunions sans périodicité définie,
 - (d) en coopérant avec d'autres organisations, nationales ou internationales, dont les buts sont complémentaires de ceux de la Société,
 - (e) en diffusant des informations parmi ses Sociétés nationales, y compris la publication des listes de membres ou d'autres documents,
 - (f) en favorisant la publication d'extraits de publications,
 - (g) en créant des sous-comités techniques et autres.

LANGUAGES

4. The official languages of the Society are English and French. Should a difference in meaning arise between the English and French versions of the Statutes and official minutes of meetings, the President is authorised to decide as to the preferred meaning. The official languages shall be used in the proceedings and the technical sessions of an International Conference. At Regional Conferences at least one of the official languages, plus (if so desired) one or more languages chosen by the host country shall be used.

LANGUES

4. Les langues officielles de la Société sont l'anglais et le français. Si une différence de sens apparaît entre le texte anglais et le texte français des Statuts et des procès-verbaux des réunions, le Président est habilité à choisir le sens à adopter. Les langues officielles doivent être utilisées dans les comptes rendus et les séances techniques d'un Congrès International. Aux conférences régionales, au moins l'une des langues officielles doit être utilisée, plus une ou plusieurs langues choisies par le pays qui reçoit (s'il le désire).

MEMBERSHIP

5. The International Society is composed of National Societies accepted into membership by the Executive Committee. The Executive Committee has the right to terminate the membership of any National Society by a simple majority vote.
6. Each National Society is composed of members, individual or corporate, accepted into membership according to the statutes of that particular Society, so that each member is automatically a member of the International Society. A member may belong to more than one National Society and these need not necessarily include that of his country of residence.
7. In order to create a National Society in a country or region, individuals interested in furthering the science and art of soil mechanics and foundation engineering must first create a Society with these aims. The Society must have:
 - (i) a Constitution or Statutes
 - (ii) a President or Chairman*
 - (iii) a Secretary
 - (iv) a Treasurer
 - (v) an address for its secretariat.
8. Once the Society has been brought into existence a letter should be sent (in English or French) signed by the President and the Secretary to the Secretary General of the ISSMFE formally applying for membership on behalf of the Society and indicating that if accepted the National Society will do its best to further the aims and objects of the International Society, to cooperate with it and abide by its Statutes, and enclosing (in English or French):
 - (i) its draft Constitution
 - (ii) the names of its Officers
 - (iii) the address of the secretariat
 - (iv) the names, occupations and addresses of its members, prepared in conformity with the requirements for the ISSMFE List of Members.
9. If the Secretary General is satisfied that the application is in order after consultation with the appropriate Regional Vice-President he may accept the National Society into membership on behalf of the Executive Committee and shall report the matter to the next meeting of that Committee. No entrance fee is payable.

MEMBRES

5. La Société Internationale est composée de Sociétés nationales admises comme membres par le Comité Exécutif. Le Comité international a le droit de mettre fin à la participation de toute Société nationale par un vote à la majorité simple.
6. Chaque Société nationale est composée de Membres, individuels ou collectifs, admis conformément aux statuts de ladite Société. Chaque membre est ainsi automatiquement Membre de la Société Internationale. Un membre peut appartenir à plusieurs Sociétés nationales, sans qu'il soit nécessaire que, parmi celles-ci, figure celle du pays dans lequel il réside.
7. Pour créer une Société nationale dans un pays ou une région, les personnes intéressées au développement des études scientifiques et de la technologie dans le domaine de la mécanique des sols et des travaux de fondations, doivent d'abord créer une Société ayant ces buts. La Société doit avoir:
 - (i) des Statuts
 - (ii) un(e) Président(e)
 - (iii) un(e) Secrétaire
 - (iv) un(e) Trésorier(e)
 - (v) une adresse pour son secrétariat.
8. Dès que la Société est créée, une lettre (en anglais ou en français), signée par le Président et le Secrétaire, doit être adressée au Secrétaire Général de la Société Internationale, demandant explicitement l'admission de la Société en précisant que, si elle est acceptée, la Société nationale fera de son mieux pour poursuivre les objectifs fixés par la Société Internationale, coopérer avec elle et respecter ses Statuts, et adressant (en anglais ou en français):
 - (i) le texte de ses Statuts
 - (ii) les noms des Membres de son Bureau
 - (iii) l'adresse de son secrétariat
 - (iv) les noms, professions et adresses de ses membres, présentés conformément aux directives données pour la liste des Membres de l'ISSMFE.
9. Si le Secrétaire Général constate que le dossier est en ordre (après consultation du Vice-Président régional concerné), il peut accepter la Société nationale comme membre, par délégation du Comité Exécutif, et en rendra compte à la première réunion de ce Comité. Aucun droit d'entrée n'est exigé.

* The use of the masculine gender in these Statutes does not imply that the relevant position is limited to a male person.

10. A National Society may be formed by groups of persons having no National Societies in their own countries. The membership of such a National Society need not necessarily be restricted to such persons. A country may not have more than one National Society.
11. A National Society which has not paid its annual subscription within six months of the date it is due, without offering a reasonable excuse, will automatically cease to belong to the International Society but may rejoin without penalty by paying all the back subscriptions owing.
12. A National Society which has resigned its membership may apply to rejoin the Society. If accepted, the Executive Committee shall decide what entrance fee, if any, shall be payable.

NATIONAL SOCIETIES

13. A National Society may be affiliated to other engineering societies, and it is free to establish its articles of association and its organization in accordance with their requirements.
14. If the statutes of a National Society are modified, copies of the proposed new statutes (in English or French) shall be forwarded to the Secretary General who will draw the Executive Committee's attention to any fundamental changes.
15. A National Society shall at all times keep the Secretary General informed about its address and the names of its officers.
16. National Societies are allocated to the geographical Regions as follows:

Africa	Europe
Asia	North America
Australasia	South America

as shown in Appendix A. New National Societies which may be formed in Central America and in the Caribbean shall be assigned to either N.America or S.America according to the wish of the National Society itself and the Officers of the ISSMFE shall be informed of the decision. Similar arrangements shall apply to new National Societies formed in the area bordering Asia and Australasia.

OFFICERS

17. The Officers of the International Society are:
 - (i) The President
 - (ii) The Vice-Presidents
 - (iii) The Secretary General

10. Une Société nationale peut être constituée par des groupes de personnes n'ayant pas de Sociétés nationales dans leurs pays respectifs. Les adhésions à une telle Société nationale ne sont pas nécessairement limitées à ces personnes. Un pays ne peut avoir plus d'une Société nationale.
11. Une Société nationale qui n'a pas payé sa cotisation annuelle dans un délai de 6 mois à compter de la date où elle est due, sans présenter d'excuse raisonnable, cessera automatiquement de faire partie de la Société Internationale, mais pourra la réintégrer sans pénalité en réglant toutes les cotisations arriérées.
12. Une Société nationale qui a résilié sa participation pourra demander à réintégrer la Société. Si ceci est accepté, le Comité Exécutif devra décider si un droit d'entrée doit lui être demandé, et le cas échéant quel en sera le montant.

SOCIETES NATIONALES

13. Une Société nationale peut être affiliée à d'autres Sociétés d'Ingénieurs et elle est libre de rédiger ses clauses d'association et son organisation en accord avec leurs exigences.
14. Toute modification des statuts d'une Société nationale doit être envoyée, en anglais ou en français, au Secrétaire Général qui attirera l'attention du Comité Exécutif sur les modifications importantes.
15. Une Société nationale doit, à tout moment, tenir le Secrétaire Général informé de son adresse et des noms des membres de son Bureau.
16. Les Sociétés nationales sont réparties dans les régions géographiques suivantes:

Afrique	Europe
Asie	Amérique du Nord
Australasie	Amérique du Sud

comme indiqué dans l'Annexe A. Les nouvelles Sociétés nationales qui pourront être créées en Amérique Centrale et dans les Caraïbes seront rattachées, soit à l'Amérique du Nord, soit à l'Amérique du Sud, selon leur propre choix. Leur décision devra être communiquée au Bureau de la société internationale. Des dispositions analogues s'appliqueront aux nouvelles Sociétés créées dans les pays limitrophes de l'Asie et de l'Australasie.

RESPONSABLES

17. Les responsables de la Société internationale sont:
 - (i) Le Président
 - (ii) Les Vice-Présidents
 - (iii) Le Secrétaire Général

PRESIDENT

18. The term of office of the President shall normally occupy four years, in general from the end of one International Conference to the end of the next Conference.
19. About one year before the expiry of the term of office of the President, the Secretary General shall invite each National Society to send him its choice of member for the next President, having first ascertained that he is willing to serve if elected. The candidate need not necessarily be a member of that National Society nor within its geographical zone. The Secretary General shall then send to each National Society a list of all the candidates and the Executive Committee shall be asked to vote on these names at its next meeting.
20. In the event of the resignation or death of the President, a new President shall be appointed by the Vice-Presidents for the unexpired term of office. Should the President be unable to act at an International Conference he shall ask one of the Vice-Presidents to act in his place.
21. A President shall not be eligible for re-election on completion of his full term of office.
22. The prime duty of the President shall be to foster the aims and objects of the Society in the world community of soil mechanics engineers and scientists. He shall preside at the ISSMFE International Conferences and shall represent the Society at meetings of other bodies as may be appropriate. He shall act as chairman at meetings of the Executive Committee and shall perform the duties entrusted to him by the Committee and by these Statutes. He may not, at an Executive Committee meeting, be a representative of his own National Society. He shall be responsible, in collaboration with the Vice-Presidents and the Secretary General, for the conduct of the affairs of the Society.

VICE-PRESIDENTS

23. One Vice-President shall represent each of the geographical Regions relating to the National Societies.
24. The term of office for the Vice-Presidents shall normally occupy four years, i.e. from the end of one International Conference to the end of the next Conference.
25. About one year before the expiry of the term of office of the Vice-Presidents, the Secretary General shall notify the

PRESIDENT

18. Le mandat de Président est normalement de quatre ans, en général de la fin d'une conférence internationale à la fin de la conférence suivante.
19. Environ un an avant l'expiration du mandat du Président de la Société Internationale, le Secrétaire Général invitera chaque Société nationale à faire connaître la personne qui est disposée à remplir ces fonctions si elle est élue. Le candidat ne devra pas nécessairement être membre de cette Société nationale ni résider dans sa zone géographique. Le Secrétaire Général enverra ensuite à chaque Société nationale une liste de tous les candidats et le Comité Exécutif sera invité à voter sur ces noms lors de sa réunion suivante.
20. Dans le cas de la démission ou du décès du Président, un nouveau Président sera nommé par les Vice-Présidents pour la fin de la durée du mandat. Si le Président se trouve indisponible lors d'une Conférence internationale, il devra désigner l'un des Vice-Présidents pour le remplacer.
21. A la fin de son mandat, le Président ne sera pas rééligible.
22. Le premier devoir du Président sera de maintenir les objectifs de la Société dans la Communauté mondiale des mécaniciens du sol, ingénieurs et hommes de Science. Il présidera les congrès internationaux de l'ISSMFE et représentera la Société aux réunions des autres groupements s'il y a lieu. Il présidera les réunions du Comité Exécutif et devra accomplir les tâches qui lui seront confiées par le Comité et par les présents statuts. Il ne pourra représenter son pays aux réunions du Comité Exécutif. Il sera responsable, avec les Vice-Présidents et le Secrétaire Général de la conduite des affaires de la Société.

VICE-PRESIDENTS

23. Un Vice-Président devra représenter chacune des régions géographiques auxquelles sont rattachées les Sociétés nationales.
24. La durée du mandat des Vice-Présidents devrait normalement être de quatre ans, c'est-à-dire de la fin d'une conférence internationale à la fin de la conférence suivante.
25. Environ un an avant l'expiration du mandat des Vice-Présidents, le Secrétaire Général devra notifier aux diverses

various National Societies that an election is to take place and shall invite them to return to him the name of one person from within their geographical Region who they have ascertained would be willing to serve as Vice-President if elected. The Secretary General shall then prepare a ballot list and shall invite the various National Societies to return the name of their choice to him by a specified date. The names of the successful candidates shall be reported to the next meeting of the Executive Committee. Should two candidates tie in the election, the President, after consultation with the existing Vice-President, shall decide which name to put forward.

26. The prime duty of a Vice-President shall be to foster the aims and objects of the Society amongst the National Societies within his region. He shall encourage the holding of symposia and conferences and shall endeavour to co-ordinate the themes and dates of National and Regional Conferences. He shall act for the President by presiding at the Regional Conference, in the arrangements for which he shall be closely involved. He shall report to the Executive Committee on the activities within his Region and where authorised to represent a National Society in accordance with Paragraph 40(v) he shall vote as he believes that Society would wish him to vote. The Vice-President shall bear a measure of responsibility for the conduct of the affairs of the Society.
27. In the event of the death or retirement of a Vice-President his successor shall be appointed by the President for the unexpired term of office. Should a Vice-President be unable to act at an International Conference, the President shall invite his successor to act in his place.
28. A Vice-President shall not be eligible for re-election on completion of his full term of office.

SECRETARY GENERAL

29. The Secretary General shall be appointed at an Executive Committee meeting at terms to be agreed by the Budget and Finance Committee. He shall be responsible, under the general direction of the President, for the conduct of all correspondence and current business of the Society. He shall be responsible for the preparation and distribution of the Agenda of the Executive Committee meetings and for the preparation and maintenance of minutes of such meetings and of reports thereon. At an Executive Committee meeting he may not represent any National Society.

Sociétés nationales qu'une élection doit avoir lieu et les invitera à lui communiquer en retour le nom d'une personne de leur région géographique dont elles seraient certaines qu'elle accepterait d'assumer les fonctions de Vice-Président si elle était élue. Le Secrétaire Général préparera alors un bulletin de vote et invitera les diverses Sociétés nationales à lui retourner le nom de leur choix pour une date donnée. Les noms des candidats ayant recueilli le plus grand nombre de suffrages seront communiqués à la réunion suivante du Comité Exécutif. Si 2 candidats sont en ballottage, le Président, après consultation du Vice-Président en exercice, choisira le candidat à proposer.

26. Le premier devoir d'un Vice-Président sera de veiller au respect des objectifs de la Société par les Sociétés nationales de sa région. Il encouragera l'organisation de symposiums et de conférences et s'efforcera de coordonner les thèmes et les dates des conférences nationales et régionales. Il suppléera le Président en présidant la conférence régionale à l'organisation de laquelle il aura étroitement participé. Il rendra compte au Comité Exécutif des activités de sa région et sera autorisé à représenter une Société nationale conformément aux dispositions du §40(v). Il votera comme il pensera que la Société le souhaiterait. Le Vice-Président portera une part de responsabilité dans la conduite des affaires de la Société.
27. Dans le cas du décès ou de la démission d'un Vice-Président, son successeur sera nommé par le Président pour le reste de la durée de son mandat. Si un Vice-Président ne peut pas assister à un congrès international, le Président invitera son successeur à occuper son poste.
28. Un Vice-Président ne pourra pas être réélu à la fin de son mandat.

SECRETARIE GENERAL

29. Le Secrétaire Général est nommé par le Comité Exécutif, dans des conditions qui feront l'objet d'un accord du sous-comité du Budget et des Finances. Il est responsable, sous la direction générale du Président, de toute la correspondance et du travail courant de la Société. Il est responsable de la préparation et de la diffusion de l'ordre du jour des réunions du Comité Exécutif et de la préparation et de la mise au point des procès-verbaux et des rapports de ces réunions. Lors d'une réunion du Comité Exécutif, il ne peut représenter aucune Société nationale.

30. The Secretary General shall send to each National Society an annual account of the dues owing, and shall ensure that all contributions and dues paid to the Society are placed in a separate account and that a record is kept. He is responsible for keeping the accounts of the Society, for the preparation of the annual budget of receipts and expenditures and for payments for the Society up to the limit of the approved budget. He shall acknowledge all the money received and only he or the President may authorize expenditures. The Secretary General shall prepare a summary of the accounts for each meeting of the Executive Committee and shall give any explanation required of expenses incurred.

31. The Secretary General is responsible for the reproduction and distribution of the List of Members in accordance with the instructions outlined by the Executive Committee.

32. The location of the secretariat shall be agreed by the Executive Committee.

EXECUTIVE COMMITTEE

33. The ultimate control of the ISSMFE rests with the Executive Committee and all major matters of policy require its approval. The Executive Committee for any meeting shall consist of the Officers of the International Society and up to two representatives from each National Society currently in membership, one of whom shall be designated in advance to act as the voting member. If the voting member is unable to act, the other delegate may act for him. In addition, other persons may be invited by the President to attend all or part of the meeting, but these will not be entitled to vote.

34. Executive Committee meetings shall be held
(a) at the time of the International Conference and, if required,
(b) at a suitable time between Conferences.

In addition, having consulted with the Officers of the ISSMFE and reasonable notice having been given, the President shall be authorised to call a special meeting of the Executive Committee to discuss urgent matters. The President shall also be authorised to seek the opinion of the various National Societies on any matter of policy and to act in the best interests of the Society according to the answers received. Such actions shall be reported and minuted at the next meeting of the Executive Committee.

30. Le Secrétaire Général devra faire parvenir à chaque Société nationale un relevé annuel des droits à payer et devra s'assurer que toutes les cotisations et droits payés à la Société sont versés à un compte séparé et qu'un relevé en est fait. Il est responsable de la tenue des comptes de la Société, de la préparation du budget annuel, des recettes et des dépenses de la Société et des paiements dans la limite du budget approuvé. Il devra donner quittance pour toutes les sommes reçues et lui ou le Président pourront seuls autoriser des dépenses. Le Secrétaire Général devra préparer un résumé des comptes pour chaque réunion du Comité Exécutif et devra donner toutes explications demandées concernant les dépenses exposées.

31. Le Secrétaire Général est responsable de la reproduction et de la diffusion des listes des membres, conformément aux instructions du Comité Exécutif.

32. Le siège du Secrétariat devra être approuvé par le Comité Exécutif.

COMITE EXECUTIF

33. L'instance suprême de l'ISSMFE est le Comité Exécutif et tous les problèmes majeurs de politique nécessitent son approbation. Lors de chacune de ses réunions, le Comité Exécutif sera constitué par le Bureau de la Société internationale et par deux représentants au plus de chaque Société nationale dont l'un devra être désigné à l'avance comme membre votant. Si le membre votant est indisponible, il sera remplacé par le second délégué. En outre, d'autres personnes peuvent être invitées par le Président pour assister à tout ou partie de la réunion, mais elles ne prennent pas part au vote.

34. Les réunions du Comité Exécutif devront être tenues environ tous les deux ans:
(a) à l'époque des congrès internationaux
(b) à une date convenable entre deux congrès.

En outre, après avoir consulté le Bureau de la Société internationale et envoyé une note explicative, le Président pourra être autorisé à convoquer en réunion spéciale le Comité Exécutif pour discuter de questions urgentes. Le Président sera aussi autorisé à demander leur avis aux Sociétés nationales sur tout problème de politique et à agir au mieux des intérêts de la Société, conformément aux réponses reçues. Il sera rendu compte de ces actions à la réunion suivante du Comité Exécutif et il en sera fait mention au procès-verbal de cette réunion.

35. For the valid constitution of an Executive Committee meeting at least one-third of the total number of National Societies in good standing should have a representative present with voting powers, except if changes in the Statutes are to be made when the quorum must be two-thirds.

36. The conduct of an Executive Committee meeting by the President, the discussion of matters on the Agenda or of any amendments put forward, shall be in accordance with the rules set out in the Statutes.

PLACE

37. An invitation to act as host for the Executive Committee meeting held between International Conferences should be sent to the Secretary General sufficiently early before an International Conference so that it can be placed on the Agenda of the Executive Committee meeting. National Societies making arrangements for a Regional Conference should bear in mind that the time and place of their Conference might be appropriate for an Executive Committee also. In general, two successive days are required for an Executive Committee meeting. If an invitation is received from more than one National Society the final selection will be made by ballot.

AGENDA

38. National Societies must submit to the Secretary General six months before an Executive Committee meeting any item which they wish to have placed on the Agenda, and three months before the meeting the Secretary General shall send the complete Agenda to each National Society.

RULES OF CONDUCT OF MEETINGS

39. General

- (i) The Chairman of meetings of the Executive Committee shall normally be the President. In his absence, the Vice-President nominated by him, or one of the other Vice-Presidents, shall act as Chairman.
- (ii) Members should address the Chair at all times.
- (iii) The minutes of Executive Committee meetings shall be recorded by the Secretary General.

35. La validité d'une réunion du Comité Exécutif nécessite qu'au moins un tiers du nombre total des Sociétés nationales aient un représentant présent muni d'un pouvoir. Toutefois, si des modifications doivent être apportées aux Statuts, le quorum doit être des deux tiers.

36. La direction d'une réunion du Comité Exécutif par le Président, la discussion des questions portées à l'ordre du jour ou de toutes modifications proposées devront être faites conformément aux dispositions établies par les statuts.

LIEU

37. Tout pays proposant sa candidature pour organiser la réunion du Comité Exécutif qui aura lieu entre les Conférences internationales devra envoyer une invitation au Secrétaire Général suffisamment à l'avance pour que celle-ci puisse être portée à l'ordre du jour de la réunion du Comité Exécutif. Les Sociétés nationales organisant une conférence régionale ne devront pas oublier que la date et le lieu de leur conférence pourraient convenir également pour une réunion du Comité Exécutif. En général, deux jours consécutifs sont nécessaires pour une réunion du Comité Exécutif. Si plusieurs Sociétés nationales font parvenir une invitation, le choix fera l'objet d'un vote.

ORDRE DU JOUR

38. Les Sociétés nationales doivent soumettre au Secrétaire Général, six mois avant une réunion du Comité Exécutif, toutes les questions qu'elles souhaitent voir porter à l'ordre du jour; trois mois avant la réunion le Secrétaire Général enverra l'ordre du jour complet à chaque Société nationale.

ORGANISATION DES REUNIONS

39. Generalites

- (i) Le Président de séance du Comité Exécutif sera normalement le Président. En son absence, le Vice-Président désigné par lui, ou l'un des autres Vice-Présidents, assurera la présidence.
- (ii) Les Membres pourront s'adresser au Président à tout moment.
- (iii) Le procès verbal des réunions du Comité Exécutif sera dressé par le Secrétaire Général.

40.Voting

- (i) Each National Society shall have one vote only.
- (ii) Voting shall in general be by a show of hands. However, for the election of the President, for the selection of the place of the next International Conference or Executive Committee meeting, and for other matters specified at the time by the Chairman, voting shall be by secret ballot, with each eligible voter voting for one choice. When more than two choices are available and none of the choices receives a majority of votes on the first ballot count, that choice receiving the fewest votes shall be deleted, and a second ballot conducted. The procedure shall be repeated successively until one of the choices receives a majority of votes.
- (iii) Resolutions may be made by a plain majority of those voting, except for those altering the Statutes, for which the assent of two thirds of those voting is required. In the event of an equality of votes on any motion the Chairman shall have a casting vote.
- (iv) The Chairman is not entitled to vote except as specified above. Vice-Presidents are not entitled to vote except as indicated in (v) below. The Secretary General is not entitled to vote.
- (v) A National Society which is unable to send a representative may delegate its voting rights either to its own Vice-President, or to the delegate of another National Society, having notified this in writing to the Secretary General.

41.Motions, Amendments and Resolutions

In order to facilitate the conduct of business

- (i) Motions will be printed on the agenda and no other motions will be discussed except by prior agreement with the Chairman. Minor matters may be raised under "Any other business".
- (ii) A motion for which no seconder can be found cannot be discussed or put to the vote. It falls to the ground, and cannot be reconsidered during the meeting. Motions by the Chairman require no seconder.

40.Vote

- (i) Chaque Société nationale n'aura qu'une voix.
- (ii) Le vote aura lieu en général à mains levées. Cependant, pour l'élection du Président, pour le choix du lieu du prochain Congrès international ou d'une réunion du comité exécutif, et pour d'autres sujets spécifiés à ce moment-là par le Président, un scrutin secret sera employé, chaque votant éligible ayant un seul choix. Lorsqu'il existe plus de deux choix, et qu'aucun choix ne reçoit une majorité nette au premier dépouillement de votes, le choix recevant le moins de votes sera supprimé et un deuxième scrutin aura lieu. Ce procédé sera répété jusqu'à ce qu'un des choix obtienne une majorité de votes.
- (iii) Les résolutions peuvent être prises à la majorité simple des voix, excepté pour celles qui modifieraient les statuts ou le règlement intérieur, et pour lesquels l'accord de deux tiers des votants est requis. Dans le cas d'égalité des voix sur une motion, la voix du Président sera prépondérante.
- (iv) Le Président ne prend pas part au vote, excepté dans les cas spécifiés ci-dessus. Les Vice-Présidents ne prennent pas part au vote, excepté dans les cas indiqués ci-dessous (v). Le Secrétaire Général ne prend pas part au vote.
- (v) Une Société nationale qui ne peut pas envoyer un représentant peut déléguer ses droits de vote soit à son Vice-Président, soit au délégué d'une autre Société nationale après en avoir informé par écrit le Secrétaire Général.

41.Motions, Amendements et Resolutions

Afin de faciliter la conduite des travaux:

- (i) Les points soumis au Comité seront inscrits à l'ordre du jour et aucune autre question ne sera discutée, sauf accord préalable du Président. Les questions mineures peuvent être soulevées sous la rubrique "questions diverses".
- (ii) Une motion qui n'a pas de "défenseur" ne peut être discutée ni soumise au vote, elle tombe et ne peut être reprise durant la session. Les motions émises par le Président n'ont pas besoin d'être présentées.

- (iii) In discussing a motion no member may speak more than once, except at the invitation of the Chairman. The mover, however, will be given the right of reply at the end of the discussion.
- (iv) After the discussion the Chairman will read the motion to ensure that the meeting knows exactly what it is voting for, and a vote will be taken.
- (v) If the motion is passed, it becomes a resolution. Neither a resolution nor a failed motion may be reopened during the current session of the Committee.
- (vi) An amendment is an alteration made by adding, changing, substituting or omitting a word, phrase or sentence of a motion. It may partially change the meaning of the motion, but must never contradict it. Amendments should be passed to the Chairman in writing.
- (vii) A member who has spoken on a motion cannot move an amendment, but he may speak on an amendment moved by another.
- (viii) If there are several amendments to a motion, they will be considered successively, so that an amendment to alter the first part of the motion comes first, etc.
- (ix) Each amendment must be moved, seconded, discussed and voted on separately. Only one amendment may be discussed at a time.
- (x) When the amendments have been separately disposed of, the Chairman will put the motion as amended clearly to the meeting. Further discussion may arise before the vote is taken.
- (xi) There is no right of reply for the mover of an amendment. If, however, his amendment has been carried and materially alters the sense of the motion, the amended motion will become the substantive motion, and the right of reply will devolve from the mover of the original motion to the mover of the amendment.

42. Acting on behalf of the Executive Committee the President, after having sought the advice of the National Societies, may set up standing and ad-hoc sub-committees and working parties with whatever powers, terms of reference and membership he may consider appropriate and these shall be reported to the next meeting of the Executive Committee for

- (iii) Aucun membre ne peut prendre la parole plus d'une fois sur une motion, sauf invitation du Président. L'auteur de la motion aura cependant le droit de répondre à la fin de la discussion.
- (iv) Après la discussion, le Président lira la motion pour s'assurer que l'Assemblée connaît exactement ce sur quoi elle vote, et il sera procédé au vote.
- (v) Si la motion est acceptée, elle devient une résolution. Ni une résolution ni une motion rejetées ne peuvent être remises en question pendant la session du Comité.
- (vi) Un amendement est une modification effectuée par addition, changement, substitution ou omission d'un mot, d'un membre de phrase ou d'une phrase d'une motion. Il peut changer partiellement la signification de la motion mais ne doit jamais la contredire. Les amendements devront être soumis au Président par écrit.
- (vii) Un membre qui a parlé sur une motion ne peut proposer un amendement, mais il peut parler sur un amendement proposé par un autre.
- (viii) S'il y a plusieurs amendements à une motion, ils seront étudiés successivement de façon qu'un amendement destiné à modifier la première partie de la motion vienne en premier, etc...
- (ix) Chaque amendement doit être proposé, appuyé, discuté et faire l'objet d'un vote séparé. Un seul amendement peut être discuté à la fois.
- (x) Quand les amendements auront été traités séparément, le Président soumettra clairement la motion à l'Assemblée. Une discussion complémentaire peut prendre place avant le vote.
- (xi) L'auteur d'un amendement n'a pas droit de réponse. Si cependant son amendement a été adopté et modifie sensiblement le sens de la motion, la motion amendée deviendra une motion formelle et le droit de réponse passera de l'auteur de la motion originale à l'auteur de l'amendement.

42. Agissant par délégation du Comité Exécutif, le Président, après avoir pris l'avis des Sociétés nationales, peut créer des sous-comités permanents ou ad hoc et des groupes de travail ayant les pouvoirs, les attributions et la composition qu'il juge appropriés. Il en rend compte à la réunion suivante du Comité Exécutif pour

formal approval. Each Sub-committee shall be formally disbanded at the end of the four year period but it may be re-formed by the new President.

43. A written report presented by the Chairman of each Sub-Committee shall be given on behalf of the Sub-Committee to the Executive Committee meeting at the time of the next International Conference.

44. The minutes of the Executive Committee shall be approved and signed at the time of the meeting and a copy shall be sent by the Secretary General to each National Society.

INTERNATIONAL AND REGIONAL CONFERENCES

45. International Conferences shall be held approximately every fourth year in a country to be decided upon by the Executive Committee. The organization and financing of an International Conference are the responsibility of the National Society of the host country. The National Society is obliged to follow the principles, rules and procedures for the Conference set out in the Statutes and decided upon by the preceding Executive Committee or by the Officers of the Society.

PLACE

46. An invitation from a National Society to act as host for an International Conference and the accompanying Executive Committee meeting should be received sufficiently long in advance so that it can be placed on the Agenda of the Executive Committee meeting at the time of the previous conference. An invitation for the next-but-one International Conference may also be considered and accepted at this meeting. If two or more invitations are received the choice shall be determined by secret ballot. If four years before a Conference is due to take place no invitation has been received, the Officers are authorised to make appropriate arrangements for one to be held.

FACILITIES

47. Before accepting an invitation the Executive Committee shall be satisfied that the host country has

- (i) a meeting place with appropriate facilities
- (ii) suitable hotel accommodation

approbation. Chaque sous-comité est systématiquement dissous à la fin de la période de quatre ans, mais il peut être reconstitué par le nouveau Président.

43. Un rapport écrit présenté par le Président de chaque sous-comité au nom de ce comité devra être remis à la réunion du Comité Exécutif tenue lors de chaque congrès international.

44. Les minutes du Comité Exécutif seront approuvées et soussignées lors de la réunion et le Secrétaire Général en enverra une copie à chaque Société nationale.

CONGRES INTERNATIONAUX ET CONFERENCES REGIONALES

45. Des Conférences internationales auront lieu environ tous les quatre ans dans un pays choisi par le Comité Exécutif. La Société nationale du pays invitant est responsable de l'organisation et du financement de la Conférence internationale. La Société nationale est tenue de se conformer aux directives, règles et procédures figurant dans les statuts et décidés par le précédent Comité Exécutif ou par les responsables de la Société.

LIEU

46. Toute proposition d'une Société nationale d'organiser un Congrès International et la réunion correspondante du Comité Exécutif devrait être reçue suffisamment en avance pour qu'elle puisse être portée à l'ordre du jour de la réunion du Comité Exécutif tenue lors du Congrès précédent. Une invitation pour le Congrès International suivant le prochain Congrès International pourra également être examinée et acceptée au cours de cette réunion. Si deux invitations, ou plus, sont reçues, le choix sera fait au scrutin secret. Si quatre ans avant la date prévue pour un Congrès, aucune invitation n'a été reçue, le Bureau est autorisé à faire les démarches appropriées pour que le Congrès puisse avoir lieu.

FACILITES

47. Avant d'accepter une invitation, le Comité Exécutif devra s'assurer que le pays invitant a:

- (i) un lieu de réunion avec les facilités appropriées
- (ii) des installations hôtelières convenables

(iii) sufficient of interest for technical and other visits.

(iii) une possibilité suffisante de visites techniques et autres présentant un intérêt.

ATTENDANCE

48. All members of the International Society are entitled to attend these International Conferences and a National Society offering to act as host must state clearly at the time the invitation is discussed what restrictions (if any) are imposed against the entry of foreign nationals by the Government of the country in which the conference is to be held, whether or not these are related to recommendations of the United Nations. If, after an invitation has been accepted, the said Government increases its restrictions, the President shall seek the opinion of the various National Societies as to whether or not the Conference should be held at another location with another host country, or whether the ISSMFE status of the Conference should be withdrawn and, after consultation with other Officers, shall act in the best interests of the Society.

PROGRAMME

49. The general programme to be followed at an International Conference shall be decided by the Conference Advisory Committee appointed for this purpose at the Executive Committee meeting held at the time of the previous Conference. The detailed arrangements shall be the responsibility of the Organising Committee of the host country, in consultation with the President and the Secretary General.

REGISTRATION

50. These Conferences are intended for members of the International Society and their accompanying persons only. Others wishing to register must obtain the permission of the National Society in their country of residence or of the Secretary General.
51. The National Society responsible for each Conference shall determine the individual registration fees for the conference, but these shall be approved by the Secretary General in consultation with the President.
52. National Societies are encouraged to organise technical meetings and conferences but these may be termed Regional Conferences of the International Society only if the time, place and subject have been approved by the appropriate Vice-President in consultation

PARTICIPATION

48. Tous les membres de la Société Internationale ont le droit d'assister aux Congrès Internationaux et une Société nationale qui propose d'organiser un Congrès doit clairement définir, quand son invitation vient en discussion, quelles sont les restrictions éventuelles émises par le Gouvernement du pays organisateur à l'entrée de ressortissants étrangers, que ces restrictions soient liées ou non à des recommandations des Nations Unies. Si, après l'acceptation d'une invitation, le dit Gouvernement élargit ses restrictions, le Président consultera les différentes Sociétés Nationales pour savoir si le Congrès devrait ou non se tenir en un autre lieu, avec un autre pays organisateur, ou si la Société Internationale doit retirer son parrainage à ce Congrès. Après consultation du Bureau, le Président agira dans le meilleur intérêt de la Société.

PROGRAMME

49. Le programme général d'un Congrès International sera décidé par le Comité spécial établi dans ce but à la réunion du Comité Exécutif tenue lors du Congrès précédent. La responsabilité des dispositions de détails appartiendra au Comité d'Organisation du pays invitant, en accord avec le Président et le Secrétaire Général.

INSCRIPTION

50. Ces Congrès sont destinés uniquement aux membres de la Société Internationale et aux personnes les accompagnant. Les autres personnes souhaitant s'inscrire devront obtenir l'autorisation de la Société nationale de leur pays de résidence, ou du Secrétaire Général.
51. La Société nationale responsable de chaque conférence devra déterminer les droits d'inscription individuels, mais ceux-ci devront être approuvés par le Secrétaire Général, en accord avec le Président.
52. Les Sociétés nationales sont invitées à organiser des réunions techniques et des conférences, mais celles-ci ne pourront être considérées comme conférences régionales de la Société Internationale que si l'époque, le lieu et le sujet ont été approuvés par le Vice-Président

with the Secretary General.

intéressé, en accord avec le Secrétaire Général.

SUBSCRIPTIONS

53. For the purposes of meeting the expenses incurred by the Society for its operation, each National Society shall pay to the order of the ISSMFE its subscription annually in advance on 1st January each year. From 1st January 1980 the amount was fixed by the Executive Committee (meeting in Oaxaca in 1979) at

Sw.Fr. 4.00 per member plus
Sw.Fr. 150.00 x Group Number of the
National Society as indicated in
Appendix A. Group Numbers may change
from one year to the next.

At any time the method of calculating the Group Numbers shall be that agreed by the most recent meeting of the Executive Committee, the number of members in the National Society being that at the time the payment is due. The Executive Committee shall have a financial report at each meeting and shall regularly review the amount of the subscription.

LIST OF MEMBERS

54. About 18 months before an International Conference, no later than a date specified by the Secretary General, each National Society shall send to him the current list of its members, with their titles, addresses and occupations, and telephone numbers if so desired, and the permanent address and telephone number of its Secretary. The lists are to be typed in accordance with instructions issued at the time by the Secretary General. The Secretary General will then distribute to each National Society a sufficient number of bound copies of the complete list of members for each individual to have one if he so chooses. A National Society which has allowed its membership to lapse at the time of printing will not be included in the list. The current Statutes shall be included with the published list of members.

AMENDMENTS TO STATUTES

55. Amendments to these Statutes may be proposed by any National Society. Such amendments shall be sent in writing to the Secretary General (as indicated in Para 38) sufficiently in advance of an Executive Committee meeting so as to have them included as an item on the circulated Agenda.

COTISATIONS

53. Dans le but de couvrir les dépenses exposées par la Société pour son activité, chaque Société nationale versera à l'ordre de la Société Internationale sa cotisation annuelle d'avance au 1er Janvier de chaque année. Le montant en a été fixé par le Comité Exécutif (réunion à Oaxaca en 1979) à:

4,00 frs suisses par membre, plus une somme en francs suisses égale à 150 fois le numéro de groupe attribué à la Société nationale dans l'annexe A. Ce numéro peut changer chaque année pour la suivante.

A chaque instant, la méthode de calcul des numéros de groupe sera celle fixée par la plus récente réunion du Comité Exécutif, le nombre de membres de chaque Société nationale étant celui lors de l'appel de la cotisation. Le Comité Exécutif entendra un rapport financier à chaque réunion et révisera régulièrement le montant de la cotisation.

LISTE DES MEMBRES

54. Environ dix-huit mois avant une Conférence Internationale, et au plus tard à une date spécifiée par le Secrétaire Général, chaque Société nationale devra lui envoyer la liste mise à jour de ses Membres avec leurs adresses, leurs professions, leurs titres et leurs numéros de téléphone s'ils le désirent, ainsi que l'adresse permanente et le numéro de téléphone de son Secrétaire. Les listes doivent être dactylographiées, conformément aux instructions établies en temps utile par le Secrétaire Général. Le Secrétaire Général diffusera ensuite à chaque Société nationale un nombre de jeux de la liste complète des membres, correspondant au nombre d'adhérents. Une Société nationale qui a laissé se périmer sa participation au moment de l'impression ne figurera pas sur la liste. Les statuts en vigueur seront inclus dans la liste des membres publiés.

MODIFICATIONS DES STATUTS

55. Des modifications aux présents statuts peuvent être proposées par toute Société nationale. De telles modifications devront être adressées par écrit au Secrétaire Général (comme indiqué au § 38.) assez longtemps avant une réunion du Comité Exécutif pour qu'elles puissent être incluses dans l'ordre du jour de cette réunion.

APPENDIX III

INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING

RECEIPTS AND PAYMENTS ACCOUNT

FOR YEAR ENDED FEBRUARY 28TH 1978

RECEIPTS (see statement attached)

Year to 28.2.77

	£	£	\$	£	\$
Sterling					
1977	979.31				
1978	<u>1,610.86</u>	2,590.17	5,028.81	6,746.74	11,469.45
Dollars	\$				
1975	89.28				
1976	773.00				
1977	8,492.00				
1978	<u>10,935.00</u>				
Less: Commission	<u>(88.91)</u>				
		10,404.52	20,200.37	6,941.76	11,800.99
Receipts from Advertising		4,050.20	7,863.45	-	-
Return of travelling expenses		664.68	1,290.49	80.00	136.00
Less: Commission		<u>(16.47)</u>	<u>(31.97)</u>	<u>-</u>	<u>-</u>
		<u>17,693.10</u>	<u>34,351.15</u>	<u>13,768.50</u>	<u>23,406.44</u>

PAYMENTS

Personnel charges	5,347.83	10,382.81	5,324.22	9,051.17
Travelling expenses	5,308.97	10,307.36	2,385.73	4,055.74
Postage and telephone	460.46	893.98	567.92	965.46
Photocopying	276.54	536.90	277.43	471.63
Printing	7,154.71	13,890.86	-	-
Lexicon: advance	1,446.99	2,809.35	-	-
Stationery	86.56	168.06	-	-
Sundries	197.09	382.64	152.45	259.16
	<u>20,279.15</u>	<u>39,371.96</u>	<u>8,707.75</u>	<u>14,803.16</u>
Excess of payments over receipts for the year	(2,586.05)	(5,020.81)	5,060.75	8,603.28
Balance at 28.2.77	20,245.39	34,417.16	15,184.64	25,813.88
Add/(Less) Difference on exchange of balance at 28.2.77	<u>(863.48)</u>	<u>3,212.82</u>	<u>-</u>	<u>-</u>
Balance at 28.2.78	<u>£16,795.86</u>	<u>\$32,609.17</u>	<u>£20,245.39</u>	<u>\$34,417.16</u>
Balance at bank (sterling)	5,548.68	10,772.76	13,303.63	22,616.17
Balance at bank (US dollars)	11,247.18	21,836.41	6,941.76	11,800.99
	<u>£16,795.86</u>	<u>\$32,609.17</u>	<u>£20,245.39</u>	<u>\$34,417.16</u>

We have compared the above receipts and payments account with the books of the Society and find it in accordance therewith.

Deloitte Haskins and Sells
Chartered Accountants,
London.
26th January 1979.

INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING

Contributions from National Societies in respect of years ended 31st December

	<u>No. of Members</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>TOTAL</u>
ARGENTINA	93			\$393.00		\$393.00
AUSTRALIA	158			\$533.00	\$75.00	\$608.00
AUSTRIA	51		\$280.00	\$278.00	\$426.00	\$984.00
BELGIUM	99					
BRAZIL	117					
BULGARIA	92					
CANADA	815				\$1,340.00	\$1,340.00
CHILE	23			\$173.00		\$173.00
CHINA	100				\$550.00	\$550.00
COLUMBIA	54		\$204.00	\$204.00	\$204.00	\$612.00
CZECHOSLOVAKIA	35				\$483.00	\$483.00
DENMARK	157				\$532.00	\$532.00
DOMINICA	43			\$50.00		\$50.00
ECUADOR	44					
FINLAND	152				\$527.00	\$527.00
FRANCE	817			\$1,267.00	\$1,417.00	\$2,684.00
FRG	634					
GDR	22				\$472.00	\$472.00
GHANA	29					
GREECE	85			\$310.00		\$310.00
HUNGARY	25				\$400.00	\$400.00
INDIA	189			\$489.00		\$489.00
INDONESIA	58			\$104.00		\$104.00
IRAN	30	Bal \$89.28	\$155.00	\$180.00	\$330.00	\$754.28
IRELAND	2			\$152.00		\$152.00
ISRAEL	119					
ITALY	841			\$1,291.00		\$1,291.00
JAPAN	368				\$1,043.00	\$1,043.00
MEXICO	387					
MOROCCO	109			\$184.00		\$184.00
NETHERLANDS	94				\$544.00	\$544.00
NEW ZEALAND	232			\$457.00		\$457.00
NIGERIA	26			\$101.00		\$101.00
NORWAY	238			\$463.00	\$633.00	\$1,096.00
PAKISTAN	16			\$166.00		\$166.00
PERU	59		\$134.00	\$134.00		\$268.00
POLAND	110			\$485.00		\$485.00
PORTUGAL	218				\$518.00	\$518.00
RHODESIA	249				\$399.00	\$399.00
ROMANIA	27			\$252.00		\$252.00
SOUTH AFRICA	485			\$170.00	\$707.00	\$1,417.00
S.E. ASIA	220				\$445.00	\$445.00
SPAIN	346					
SWEDEN	313				\$763.00	\$763.00
SWITZERLAND	168					
SYRIA	11				\$161.00	\$161.00
TURKEY	47				\$272.00	\$272.00
UNITED KINGDOM	732					
U.S.A.	1,000			\$1,500.00	\$1,825.00	\$3,325.00
U.S.S.R.	255					
VENEZUELA	184					
YUGOSLAVIA	86			\$311.00		\$311.00
 TOTAL IN DOLLARS		 \$89.28	 \$773.00	 \$10,187.00	 \$14,066.00	 \$25,115.00

Those contributions shown above which were received in £ sterling have been converted into U.S. dollars at the rate of exchange ruling on the day of receipt of the contributions. For accounts purposes, however, both £ sterling and U.S. dollars receipts and payments have been converted into their U.S. dollar and £ sterling equivalents at the rate of exchange ruling on the 28th February 1978 - i.e. U.S.\$ 1.9415 = £ Sterling 1.

APPENDIX IV

SUB-COMMITTEES OF THE ISSMFE 1977 - 1981

Giving Terms of reference and membership: names with asterisk are still waiting confirmation.

1981 CONFERENCE ADVISORY COMMITTEE

To advise the Host Organising Committee on all matters relating to the forthcoming Conference on behalf of the Executive Committee including the schedule of events leading up to the Conference, and the general programme to be followed, and (if appropriate) to make recommendations to the Executive Committee

Prof. M.Fukuoka	(President)	Chairman
Prof. B.Broms	(V-P of the Region)	
Prof. A.Nakase	(Sec.Gen of prev.Conference)	
Prof. S.Hansbo	(Nominated by Host Country)	
Prof. J.K.T.L.Nash		Secretary
PLUS		
an observer nominated by Sweden (Mr. N. Flodin)		
an abserver nominated by USA (Prof.H.Seed)		
with the 1985 conference in mind.		

LIST OF MEMBERS

To make recommendations to the Executive Committee as to the format to be used for the 1981 List of Members and, in conjunction with the Secretary General, to arrange for its production and distribution.

Dr. Z-C Moh	(Chairman)	S.E.Asia
Mr. M. Adams		France
GKN Keller (Mr. Bowman)		F.R.G.
Dr. S. Ohya		Japan
Mr. T.R.M. Wakeling		U.K.
Mr. R.J. Woodward		U.S.A.
Prof. J.K.T.L. Nash	(Secretary)	

INFORMATION ADVISORY COMMITTEE

To advise the management of Geotechnical Abstracts as to how they can best serve the needs of the ISSMFE membership in the provision of geotechnical literature abstracts; to keep in touch with other geotechnical societies and those responsible for the production of other geotechnical abstracts and to make recommendations to the Executive Committee with regard to Abstract and Retrieval Systems.

Prof. D.H. Shields	(Chairman)	Canada
Mr. J. De Salvo		USA
Mr. N. Flodin		Sweden
Mr. P. Florentin		France
Mr. F. Jørstad		Norway
Prof. H. Kishida		Japan
Mr. H. Kuhn		F.R.G.
Dr. I. Manoliu		Romania
Mr. W. Norup		U.S.A.
Dr. A. Silveria		Brazil

FIELD AND LABORATORY SOIL TESTING COMMITTEE

(i) To determine the methods used by the various National Societies to obtain strength and deformation characteristics for the design of structures

(ii) To prepare a manual for carrying out the following:

a) Consolidation)	
b) triaxial cell)	laboratory tests
c) Unconfined compression)	
d) Plate-bearing)	field tests
e) pile loading)	

Prof. U. Smoltczyk (Chairman) F.R.G.
Rest of committee yet to be appointed

BUDGET AND FINANCE COMMITTEE

To make recommendations to the Executive Committee as to the methods used for assessing the annual dues for each National Society and generally to advise the Secretary General with regard to financial affairs of the Society.

Dr. E. D'Appolonia	(Chairman)	USA
Mr. M.O. Adesunloye		Nigeria
*Dr. H.W. Koenig		F.R.G.
Mr. F. Mawlawi		Syria
Dr. A.C. Meigh		U.K.
*Dr. J. Donald Scott		Canada
Dr. Tan Swan Beng		S.E.Asia

GEOMECHANICAL COMPUTER PROGRAMS

To make recommendations to the Executive Committee as to whether or not the ISSMFE should have a clearing house for the Publicity and Exchange of Geomechanical Computer Programs and, if so, to advise as to how and where it should be run and how it should be financed.

Prof. Z. Eisenstein	(Chairman)	Canada
Prof. C. Athanasiu		Romania
Prof. A.S.Balasubramaniam		S.E.Asia
Dr. S.W. Covarrubias V.		Mexico
Mr. M. Dysli		Switzerland
Mr. S. Semprich		F.R.G.

EUROPEAN COMMITTEE ON PENETRATION TESTING

To recommend a Standard for Penetration Testing in Europe

Prof. B. Broms	(Chairman)	Sweden
Prof. E. de Beer		Belgium
Mr. F. Baguelin		France
Dr. U. Bergdahl	(Secretary)	Sweden
Ir. W.J. Heijnen		Netherlands
Dr. T. Kallstenius		Sweden
Prof. E. Schultze		F.R.G.
Prof. G. Stefanoff		Bulgaria
Prof. Yu G. Trofimenkov		USSR
Dr. H. Zweck		F.R.G.
Observer: Prof.Schmertmann		U.S.A.

RESEARCH CO-OPERATION COMMITTEE*

(i) To survey programmes of soil mechanics research and to recommend to the Executive Committee where co-operation might usefully take place between establishments in the more and the less technologically advanced National Societies

(ii) To endeavour to initiate such co-operation between an appropriate pair of establishments and to monitor its progress with a view to further extension.

*Terms to be approved
Committee yet to be appointed

SITE INVESTIGATION

to collect information from National Societies concerning their current practice in planning and carrying out Site Investigations and to produce a Site Investigation Manual

Working Committee:

Mr. S.D. Wilson	(Chairman)	U.S.A.
Mr. S. Ohya	(Secretary)	Japan
Dr. A. Andreson		Norway
Dr. U.B. Bergdahl		Sweden
Dr. R.N. Chowdhury		Australia
Dr. D.H. Cornforth		U.S.A.
Prof. Ir. M. Lousberg		Belgium
Mr. S. Marchetti		Italy
Dr. L.G. Mariupolsky		USSR
Dr. A.C. Meigh		U.K.
Prof. G.G. Meyerhof		Canada
Dr. Z-C. Moh		S.E.Asia
Dr. G. Ranjan		India
Dr. H. Sommer		F.R.G.

Advisors:

Mr. Y.O. Beredugo	Nigeria
Dr. E.W. Brand	S.E.Asia
Mr. N. Maugeri	Italy
Prof. M.L. Silver	U.S.A.
Prof. W. Wolski	Poland

SYMBOLS AND UNITS

To recommend to the Executive Committee appropriate symbols and units for geotechnical terms; to produce a multi-lingual Lexicon of terms; to consult with other geotechnical bodies with a view to deriving common symbols, units, definitions and standards

Mr. F. Baguelin	(Chairman)	France
Prof. P. Colombo		Italy
Mr. J.B. Folque		Portugal
Prof. P. Habib		France
Prof. J.N. Hutchinson		U.K.
Mr. A.I. Johnson		U.S.A.
Dr. L. Jurgenson		U.S.S.R.
Prof. J.L. Justo		Spain
Mr. J. Morton		Canada
Mr. E. Sandegren		Sweden
Prof. E. Schultze		F.R.G.
*Dr. G. Ter-Stepanian		U.S.S.R.
Prof. W. Wolski		Poland

SOIL SAMPLING

To collect information from National Societies about their current practice in soil sampling and to produce a Manual of Soil Sampling for various types of Soil.

Working Committee:

Mr. H. Mori	(Chairman)	Japan
Dr. K. Adachi	(Secretary)	Japan
Dr. R.K. Bhandari		India
Dr. R.P. Brenner		S.E.Asia
Prof. B. Broms		Sweden
Mr. W.K. Cole		U.K.
Mr. B.A. Kantey		S.Africa
Dr. M. Kany		F.R.G.
Ir. E.H. de Leeuw		Netherlands
*Mr. H. Lemasson		France
Prof. M.V. Malyshev		USSR
Dr. W.F. Marcuson		USA
Dr. K. Schjetne		Norway
Mr. R. Tadinier		Australia
Prof. M. Jamiolkowski		Italy

Advisors:

*Dr. H.R. Al-Alusi	USA
Mr. E.E. Alonso	Spain
Dr. H.K.S. Ph.Begemann	Netherlands
*Prof. E. Botea	Romania
Mr. K.R. Datye	India
Mr. R.P. Holtz	India
Mr. T. Hvam or Mr. M. Jacobsen	Denmark
*Mr. M. Katzir	Israel
*Mr. E.J. Kohn	Canada
Prof. M. Milovic	Yugoslavia
Dr. Z-C Moh	S.E.Asia
Prof. J.O. Osterberg	USA
Dr. D. Resendiz	Mexico
Mr. O.K.H. Steffen	S.Africa
*Dr. A. Tejchman	Poland
*Prof. V. Viggiani	Italy

ISSMFE REPRESENTATION ON CO-ORDINATING COMMITTEES with International Society of Rock Mechanics (ISRM) and International Association of Engineering Geology (IAEG)

1. Symbols, Units and Definitions

Mr. F. Baguelin	France
Mr. E. Sandegren	Sweden
Dr. Ter-Stepanian	USSR

2. Literature Classification

Mr. N. Flodin	Sweden
Mr. F. Jørstad	Norway
Mr. H. Kuhn	FRG

3. Standardization of Conference Proceedings

Prof. J.K.T.L. Nash Secretary General

4. Site Investigation and Sampling

Mr. E.H. de Leeuw,	Netherlands
Mr. Stanley D. Wilson	USA
Prof. Ir. M. Lousberg	Belgium

APPENDIX V

REPORT ON POLICIES RELATED TO PUBLICITY AND EXCHANGE OF GEOMECHANICAL COMPUTER PROGRAMS

ISSMFE Sub-Committee on Geomechanical Computer Programs, January 1979

INTRODUCTION

The present ISSMFE Technical Sub-Committee on Geomechanical Computer Programs has been set up following a decision of the 1977 ISSMFE Executive Committee meeting in Tokyo with these terms of reference:

"To make recommendations to the Executive Committee as to whether or not the ISSMFE should have a clearing house for the Publicity and Exchange of Geomechanical Computer Programs and, if so, to advise as to how and where it should be run and how it should be financed".

The membership of the Sub-Committee has been nominated by the President of ISSMFE as follows:

Prof. Z. Eisenstein (Chairman)	Canada
Dr. C. Athenasiu	Romania
Dr. A.S. Balasubramaniam	S.E. Asia
Dr. S.W. Covarrubias	Mexico
Mr. M. Dysli	Switzerland
Prof. T. Kawamoto	Japan
Mr. S. Semprich	F.R.G.

All nominated members agreed to serve and the Sub-Committee began the work on its task in September 1978.

ACTIVITIES OF THE SUB-COMMITTEE

Since the Sub-Committee has no funds to cover travel to meetings, most of its deliberations has had to be done by mail. The Chairman formulated a first set of questions which were sent to the members on September 25, 1978. The questions were:

1. What is your personal involvement and/or experience with publicity and exchange of geotechnical computer programs - at any level (international, national, regional, institutional, within a company)? If possible, consider separately the problems of (i) publicity, and (ii) exchange.
2. Do you know of any other established systems of exchange and/or publicity of computer programs (i.e. systems you might not have direct experience with or systems outside geotechnical engineering)?
3. Do you feel that PUBLICITY of documented geotechnical computer programs could and should be extended to the global scale (say in the form of periodically published abstracts) under the sponsorship of ISSMFE?

4. If your answer to 3 is positive, who should be asked to undertake the task of publishing such abstracts and how should it be financed?
5. Do you feel that EXCHANGE of documented computer programs could and should be extended to the global scale through a clearing house which would test the programs and unify their standards? Should ISSMFE sponsor such activities?
6. If your answer to 5 is positive, who should be asked to operate such a clearing house and how should it be financed?
7. Would you include in a publicity and exchange scheme sponsored by ISSMFE:
 - (i) programs which are available for the cost of reproduction and mailing only, or
 - (ii) all submitted programs including commercially available programs?
8. If your answers to questions 3 and/or 5 are positive, do you suggest that the ISSMFE should solicit proposals for operating such a scheme (or schemes) from interested parties (like institutions, universities, publishing houses, private firms, etc)?
9. Please add any additional ideas or comments you might have regarding this matter or any further questions you would like to be put before members of our Sub-Committee.

The Chairman asked the members to respond to these questions by November 1, 1978. By the end of December 1978 five members of the Sub-Committee had replied. The following section of the Report contains a synthesis of the received responses. The task of preparing such a synthesis has been facilitated by a relatively high degree of consensus on the fundamental issues among the replies.

SUMMARY OF THE VIEWS OF THE SUB-COMMITTEE

The members of the Sub-Committee are in most cases directly involved with existing schemes of publicity and exchange of computer programs, either as users or as organizers. They believe that geotechnical software coordination is important to our profession, perhaps in the same way as coordination of information (abstracts) on published research. At present several systems of geotechnical software publicity operate with varying degrees of success in several parts of the world, mostly on a regional basis.

The Sub-Committee is of the opinion that

publicity of documented geomechanical computer programs on a global scale is feasible and would be of direct benefit to the profession. As such it would deserve an endorsement of ISSMFE. The best form of computer program publicity would be periodically published abstracts. The publication should be financially self-supporting through the cost of subscriptions. Editing of the abstracts should be carried out by an institution with established expertise and experience in this field. Distribution of the abstracts should preferably be, at least initially, attached to an existing geotechnical abstract publication system, such as Geotechnical Abstracts, or AGE Current Awareness System or Geodex.

The Sub-Committee holds the view that any ISSMFE-sponsored activity beyond the publication of abstracts would be premature. This includes an establishment of an institute for exchange and verification of programs (a clearing house) or a new, specialized journal. While such ventures should not be excluded for the future, they should not be attempted as a first step.

A majority of the members feel that the published abstracts should include all geomechanical programs offered for publicity, regardless of form of compensation associated with the release of such a program. These questions should be left entirely to the two parties (author-user) directly involved.

RECOMMENDATIONS

The Technical Sub-Committee on Geomechanical Computer Programs recommends, that the International Society for Soil Mechanics and Foundation Engineering:

1. Approach the three existing systems of geotechnical abstracts (a) Geotechnical Abstracts published by the German Geotechnical Society, (b) AGE Current Awareness System published by the Asian Information Center for Geotechnical Engineering at AIT in Bangkok, and (c) Geodex International Co. with a proposal to include a special section in their publication on computer program abstracts;
2. Extend ISSMFE endorsement to such a section (in a way similar to endorsing the publication of the Geotechnical Abstracts);
3. Offer help (through the Technical Sub-Committee on Computer Programs) to find qualified editors for such a section;
4. Support educational efforts in the area of geotechnical software exchange through Special sessions at international conferences, such as Specialty Session 12 at the 9th ICSMFE in Tokyo, 1977.

INTERNATIONAL GEOTECHNICAL CLASSIFICATION SYSTEM

(Prepared by the Information Advisory Committee of the International Society for Soil Mechanics and Foundation Engineering – Principal Groups and Main Divisions only)
Revised Version 1981 **

A General

- A 1 Geotechnical Engineering-Scope
- A 2 Historical Aspects
- A 3 Information Services and Literature Classification
- A 4 Textbooks, Handbooks, and Periodicals
- A 5 Terminology
- A 6 Companies, Institutes, and Laboratories
- A 7 Societies, Meetings, and International Cooperation
- A 8 Professional Ethics, Legal Requirements, Codes of Practice, and Standardization
- A 9 Education
- A 10 Research Activities

B Geological and Environmental Aspects

(Basic Geology, see Principal Group T)

- B 0 General
- B 1 Formation of Soils and Rocks
- B 2 Hydrogeological Aspects
- B 3 Mass Movements and Land Subsidence
- B 4 Seismic Activity and Crustal Movements
- B 5 Climatic Conditions
- B 6 Submarine Geological Aspects
- B 7 —
- B 8 Extraterrestrial Soil and Rock Conditions
- B 9 Geomorphologic Aspects and Terrain Classification
- B 10 Mineralogical Aspects
- B 11 Description of Regional Soil and Rock Conditions
- B 12 Other Environmental Aspects

C Site Investigations

Equipment and Techniques of Exploration, Prospection, Sampling, and Field Testing of Soils and Rocks (excl. determination of engineering properties), Presentation of Results

- C 0 General
- C 1 Airphoto Surveys and Remote Sensing
- C 2 Geophysical Surveys
- C 3 Probing (Soundings)
- C 4 Visual Exploration Techniques
- C 5 Boring Techniques and Equipment (cf. C 10)
- C 6 Sampling
- C 7 Measurement of Field Conditions (incl. Post-Construction Monitoring)
- C 8 Field Testing (Excl. tests for engineering properties, see Groups D and F)
- C 9 Presentation of Results
- C 10 Underwater Site Investigations

D Soil Properties: Laboratory and In-Situ

Determinations

(Incl. Rockfill, Artificial Soils, Waste Materials)

Concepts, Theories, Methods of Determination, Equipment, and Results

- D 0 General
- D 1 Classification and Description of Soils
- D 2 Physico-Chemical Properties
- D 3 Composition, Structure, Density, and Water Contents
- D 4 Hydraulic Properties
- D 5 Compressibility and Swelling
- D 6 Shear-Deformation and Strength Properties
- D 7 Dynamic Properties
- D 8 Thermal Properties
- D 9 Compaction
- D 10 Properties of Soil-Additive Mixtures

E Analysis of Soil-Engineering Problems

Theoretical, Empirical, and Practical Methods of Analysis

- E 0 General
- E 1 Stress Analysis
- E 2 Deformation and Settlement Problems
- E 3 Bearing Capacity of Shallow Foundations
- E 4 Bearing Capacity of Piles and other Deep Foundations
- E 5 Earth Pressure Problems
- E 6 Stability of Slopes and Excavations
- E 7 Seepage and other Hydraulic Problems
- E 8 Dynamic Problems
- E 9 Frost Action and Heat-Transfer Problems
- E 10 Analysis of Layered Systems and Pavements Behaviour
- E 11 Soil-Vehicle and Soil-Toe Interaction
- E 12 Soil-Structure Interaction
- E 13 Mathematical Methods, Computer Analysis
- E 14 Model Test Analysis

F Rock Properties: Laboratory and In-Situ

Determinations

Concepts, Theories, Methods of Determination, Equipment, and Results

- F 0 General
- F 1 Classification and Description of Rocks and Rock Masses
- F 2 Physico-Chemical Properties
- F 3 Composition, Density, and Structural Features

- F 4 Hydraulic Properties
- F 5 Compressibility and Swelling
- F 6 Shear-Deformation and Strength Properties
- F 7 Dynamic Properties
- F 8 Thermal Properties

G Analysis of Rock-Engineering Problems

Theoretical, Empirical, and Practical Methods of Analysis

- G 0 General
- G 1 Stress Analysis
- G 2 Deformation and Displacement Problems
- G 3 Bearing Capacity of Rock Masses
- G 4 —
- G 5 Rock Pressure on Tunnels and Underground Openings
- G 6 Stability of Rock Slopes and Open Excavations
- G 7 Seepage and other Hydraulic Problems
- G 8 Dynamic Problems
- G 9 Frost Action and Heat-Transfer Problems
- G 10 —
- G 11 —
- G 12 Rock-Structure-Interaction
- G 13 Mathematical Methods, Computer Analysis
- G 14 Model Test Analysis

H Design, Construction, and Behaviour of Engineering Works

Descriptions and Case Records of Engineering Works

- H 0 General
- H 1 Foundations of Structures (other than dams)
- H 2 Retaining Structures and Cut-off Walls
- H 3 Offshore Structures
- H 4 Dams and Reservoirs
- H 5 Tunnels and Underground Openings
- H 6 Roads, Railroads and Airfields
- H 7 Harbours, Canals, and Coastal Engineering Works
- H 8 Conduits and Culverts
- H 9 Slopes and Unsupported Excavations
- H 10 Land Use

K Construction Methods and Equipment

- K 0 General
- K 1 Drainage Methods
- K 2 Sealing and Grouting Processes
- K 3 Preloading and Soil Replacement
- K 4 Earthworks and Rock Excavation, Processing and Transportation
- K 5 Compaction Processes
- K 6 Soil Stabilization and Erosion Control
- K 7 Piles and Pile Driving, Incl. Sheet Piles
- K 8 Construction of Caissons and Deep Piers
- K 9 Construction Methods for Shallow Foundations
- K 10 Slurry-Assisted Construction of Foundations and Cut-off Walls
- K 11 Support of Soil and Rock
- K 12 Offshore Construction
- K 13 Protection Measures against Frost
- K 14 Measures for Improving Deformation and Stability Conditions. Reconstruction of Foundations

M Materials of Construction *

- M 0 General
- M 1 Steel
- M 2 Wood
- M 3 Bituminous Materials
- M 4 Plastics and Similar Materials
- M 5 Cement and Chemicals
- M 6 Concrete
- M 7 Paints and Coatings
- M 8 Construction Elements

S Snow and Ice Mechanics and Engineering

- S 0 General
- S 1 Snow and Ice Cover
- S 2 Properties of Snow and Ice
- S 3 Snow and Ice Engineering

T Related Disciplines *

- T 0 General
- T 1 Pure Sciences
- T 2 Geosciences
- T 3 Agriculture and Pedology
- T 4 Meteorology and Climatology
- T 5 Biosciences
- T 6 Civil Engineering
- T 7 Mining Engineering and Ore Prospecting
- T 8 Mechanical Engineering
- T 9 Electrical Engineering
- T 10 Ocean Engineering
- T 11 Military and Naval Engineering
- T 12 Instrumentation and Measuring Techniques
- T 13 Library Science
- T 14 Environmental Problems and Nature Conservation
- T 15 Oil Prospecting

* The principal groups M and T are not to be used for „Geotechnical Abstracts“

** Result of revision work 1978-81. Further details obtainable from Geotechnical Abstracts, Editorial Office, H. Kühn, 38 Römerstrasse, 5000 Köln 50, Germany (F.R.)

International Society for Soil Mechanics and Foundation Engineering

Minutes of the Executive Committee Meeting Held in Stockholm

Procès-verbal de Réunion du Comité Exécutif à Stockholm

09.00 - 17.00, 12th June 1981
09.00 - 20.10, 13th June 1981
14.00 - 16.20, 17th June 1981

President : Prof. M. Fukuoka
Secretary General : Prof. J.B. Burland

OPENING REMARKS BY PRESIDENT

1. The President reported on the sad death of the Secretary General, Professor Kevin Nash, and what a grievous loss this would be to the Society. He was appointed Secretary General in 1968 and since that time had worked selflessly for the Society. It was under his careful guidance and vision that the Society became amongst the most important in the civil engineering world. A very large number of letters from National Societies, organisations and individuals, paying tribute to the immense contribution Kevin Nash made to our Society had been received and his great foresight and wisdom have steered the Society safely through many difficulties. Kevin was a very modest person and for this reason it is perhaps only those who had had the privilege of working very close to him who fully appreciated what immense resources of courage and wisdom he had to draw on.

Kevin would be missed more than could be told and members of the Society conveyed to his wife, Mel, and his children their deepest sympathy. The Committee stood for a minute's silence in tribute to his memory.

The President explained the actions he had taken in appointing a new Secretary General up to the end of the Conference. He reported that on receiving the news he had asked Prof. John Burland if he would be willing to act as Secretary General and having got his agreement he wrote to the Vice Presidents and the National Societies explaining his proposals. All the replies received were positive. The Chairman of the Budget and Finance Sub-Committee was also approached since the Statutes require that the terms of the appointment of the Secretary General are to be agreed by that Committee, and this support was also gained. Professor Burland was then formally invited to be Secretary General on the same terms as Professor Nash, and he accepted this invitation.

Rapid action was needed and gratitude should be expressed to Professor Burland for taking on this task at short notice. The Committee was then asked to endorse these actions and its approval was given.

The President pointed out that the loss of Kevin Nash's guidance and experience was a severe blow and therefore very careful and mature consideration should be given to his replacement and he suggested that a hasty

REMARQUES LIMINAIRES DU PRESIDENT

Le président rappelle le décès du Secrétaire Général, le Professeur Kevin Nash, et la perte cruelle que cela représente pour la Société. Il fut nommé Secrétaire Général en 1968 et, depuis cette date, avait mis son dévouement au service de la Société. C'est grâce à sa direction attentive et à sa perspicacité que la Société est devenue l'une des plus importantes dans le domaine du génie civil. De très nombreuses lettres sont parvenues de Sociétés Nationales, d'organismes ou d'individus, qui rendent hommage à la vaste contribution à notre Société apportée par Kevin Nash, dont la grande prévoyance et la sagesse ont dirigé la Société avec sûreté, à travers maintes difficultés. Kevin était un homme très modeste et, pour cette raison, il n'y a peut-être que ceux qui ont eu le privilège de travailler à ses côtés pour apprécier pleinement ses ressources immenses de courage et de sagesse.

La disparition de Kevin est indiciblement regrettée, et les membres de la Société transmettent à sa femme, Mel, et à ses enfants leurs condoléances. Une minute de silence est observée par le Comité en hommage à la mémoire de Kevin Nash.

Le Président explique les mesures qu'il a prises pour nommer un nouveau Secrétaire Général jusqu'à la clôture du Congrès. Dès l'annonce du décès de Kevin Nash, il a demandé au Prof. John Burland s'il accepterait d'être Secrétaire Général. Ayant reçu son accord, il a écrit aux Vice-Présidents et aux Sociétés Nationales pour expliquer sa proposition. Toutes les réponses reçues furent favorables. Le Président du Sous-Comité du Budget et des Finances, également contacté, a donné son accord, les Statuts prévoyant que les conditions de nomination du Secrétaire Général doivent être approuvées par ce Comité. Le Professeur Burland a alors été officiellement invité à être le Secrétaire Général, aux mêmes conditions que celles du Professeur Nash, et il a accepté cette invitation.

Une action rapide était nécessaire et il faut être reconnaissant envers le Professeur Burland d'avoir accepté cette tâche dans un court délai. Le Comité est alors prié d'avaliser ces mesures, et donne son approbation.

Le Président fait ressortir que la perte des conseils et de l'expérience de Kevin Nash est un coup sévère et qu'il faut donc porter une attention mûrement réfléchie à son remplacement, et suggère qu'on ne prenne pas une décision hâtive.

decision should not be taken.

In the light of the present circumstances the President pointed out the need for a period of stability and as the Statutes were completely revised at the last meeting, in Oaxaca, if possible it would be desirable to avoid any further major changes until the Society had settled down under the guidance of the new President and new Secretary General.

2. LIST OF REPRESENTATIVES PRESENT

The President first welcomed all those present and then warmly thanked the Swedish National Society for having invited the ISSMFE to hold their Executive Committee Meeting in Stockholm.

Next he welcomed and introduced the Vice Presidents

Prof. W.R. Mackechnie	Africa
Prof. D. Mohan	Asia
Mr. A.D. Hosking	Australasia
Prof. B.B. Broms	Europe
Prof. G.F. Sowers	N.America
Prof. F. Martinez	S.America,

the Vice Presidents Elect

Mr. L.C. Wilson	Africa
Prof. F.K. Chin	Asia
Dr. R.D. Northey	Australasia
Prof. A. Croce	Europe
Mr. C.B. Crawford	N.America
Prof. J.C. Hiedra-Lopez	S.America,

and pointed out that the Presidents Elect were known to all and both Professor Broms and Professor Seed were here as Vice President Europe and U.S. Delegate respectively. Professor de Mello was unfortunately delayed but it was hoped that he would be present during Saturday afternoon's session. He welcomed Egypt back into membership and gave a special welcome to the representative from Paraguay here for the first time, and to Israel and Morocco who are now back in good standing. In addition there were three observers present, Dr. Ulf Lindblom who would be reporting on behalf of the Conference Advisory Committee, Prof. A. Nakase who was assisting the Secretary General with the Minute taking and Mr. S. Ohya the Secretary of the Site Investigation Subcommittee and all were welcomed. The President also welcomed Dr. H.C. Fischer, Past President of the International Tunnelling Association, who was present for part of the meeting. The President finished by welcoming the Chairmen of the various Sub-Committees present:

Dr. Z-C Moh	List of Members
Dr. E. D'Appolonia	Budget and Finance
Prof. D.H. Shields	Information Advisory
Dr. U. Smoltczyk	Field & Laboratory Soil Testing
Prof. B. Broms	European Penetration "
Prof. F. Martinez	Research Co-Operation
Prof. Z. Eisenstein	Geomechanical Computer Programs
Mr. S.D. Wilson	Site Investigation
Dr. H. Mori	Soil Sampling
Prof. N.K. Ovesen	Code for Foundations EC7
Prof. E.E. de Beer	Co-Ordinating Secretariat S/R/G
Mr. F. Baguelin	Symbols, Units & Definitions.

A la lumière des circonstances actuelles, le Président fait ressortir la nécessité d'une période de stabilité et, puisque les Statuts ont été entièrement révisés lors de la dernière réunion, à Oaxaca, il serait souhaitable d'éviter si possible toute nouvelle modification importante jusqu'à ce que la Société ait repris sa marche sous la conduite du nouveau Président et du nouveau Secrétaire Général.

2. LISTE DES DELEGUES PRESENTS

Le Président souhaite d'abord la bienvenue à toutes les personnes présentes, puis remercie chaleureusement la Société Nationale de Suède d'avoir invité la Société Internationale à tenir la réunion de son Comité Exécutif à Stockholm.

Il accueille et présente les Vice-Présidents:

Prof. W.R. Mackechnie	Afrique
Prof. D. Mohan	Asie
Mr. A.D. Hosking	Australasie
Prof. B.B. Broms	Europe
Prof. G.F. Sowers	Amérique du Nord
Prof. F. Martinez	Amérique du Sud

et les futurs Vice-Présidents :

Mr. L.C. Wilson	Afrique
Prof. F.K. Chin	Asie
Dr. R.D. Northey	Australasie
Prof. A. Croce	Europe
Mr. C.B. Crawford	Amérique du Nord
Prof. J.C. Hiedra-Lopez	Amérique du Sud,

et signale les candidats à la Présidence, qui sont connus de tous. Le Professeur Broms et le Professeur Seed sont présents, respectivement en temps que Vice-Président pour l'Europe et délégué pour les Etats-Unis. Le Professeur de Mello a été malheureusement retardé, mais on espère qu'il arrivera dans l'après-midi de samedi. Le Président salue la réintégration de l'Egypte et souhaite spécialement la bienvenue au délégué du Paraguay, représenté pour la première fois, et à Israël et au Maroc qui ont régularisé leur situation. Il accueille trois personnes présentes comme observateurs, le Dr. Ulf Lindblom au nom du Comité Consultatif du Congrès, le Prof. A. Nakase, qui assiste le Secrétaire Général dans l'établissement du procès-verbal, et Mr. S. Ohya, secrétaire du Sous-Comité des Reconnaissances de sites. Le Président accueille également le Dr. H.C. Fischer, ancien Président de l'Association Internationale des Tunnels, qui assiste à une partie de la réunion. Le Président termine en accueillant les Présidents des différents Sous-Comités :

Dr. Z-C Moh	Liste des Membres
Dr. E. D'Appolonia	Budget et Finances
Prof. D.H. Shields	Information
Dr. U. Smoltczyk	Essais de labo. et in situ
Prof. B. Broms	Essais de Pénétration en Europe
Prof. F. Martinez	Coopération de la recherche
Prof. Z. Eisenstein	Programmes d'ordinateur en Géomécanique
Mr. S.D. Wilson	Reconnaissances de sites
Dr. H. Mori	Echantillonnage de sols
Prof. N.K. Ovesen	Euro-code pour les fondations
Prof. E.E. de Beer	Secrétariat de Coordination Sols/Roches/Géologie
Mr. F. Baguelin	Symboles, Unités & Définitions.

The past Presidents had been invited and although Professors Skempton, Casagrande and Kerisel had to send their apologies, Professor Peck hoped to attend part of the meeting.

Les anciens Président ont été invités. Les Professeurs Skempton, Casagrande et Kérisel se sont excusés et le Professeur Peck espère assister à une partie de la réunion.

DELEGATES

NATIONAL SOCIETIES

Argentina
Australia
Austria
Belgium
Brazil
Bulgaria
Canada
Chile
China
Colombia
Czechoslovakia
Denmark
Dominican Rep.
Ecuador
Egypt
Finland
France
FRG
GDR
Ghana
Greece
Hungary
India
Indonesia
Iran
Ireland
Israel
Italy
Japan
Mexico
Morocco
Netherlands
New Zealand
Nigeria
Norway
Pakistan
Paraguay
Peru
Poland
Portugal
Romania
S.Africa
S.E. Asia
Spain
Sweden
Switzerland
Syria
Turkey
United Kingdom
U.S.A.
U.S.S.R.
Venezuela
Yugoslavia
Zimbabwe

VOTING REPRESENTATIVE

Dr. O.A. Varde
Dr. H.G. Poulos
Dr. M. Fross
Prof. E.E. de Beer
Prof. M.A. Kanji
Prof. G. Stefanoff
Mr. J.I. Adams
Mr. G. Noguera
Prof. Z.J. Lu
Del. from Venezuela
Prof. B. Kamenov
Prof. N.K. Ovesen
Del from Venezuela
Del from Venezuela
-
Mr. H. Rathmayer
Prof. P.A. Habib
Prof. U. Smoltczyk
Prof. W.W. Rattay
-
Prof. A. Loizos
Prof. G. Petraosvits
Prof. J. Narain
Mr. A.A. Jayaputra
-
Mr. M.F. Grace
Prof. J.G. Zeitlen
Dr. S. Martinetti
Dr. T. Kmura
Mr. L. Vieitez
Del V-P Africa
Prof. A.F. van Weele
Dr. R.D. Northey
Dr. A.O. Madedor
Mr. K. Senneset
-
Prof. J.J. Bosio
Del. Venezuela
Prof. W. Wolski
Dr. J.M. Esteves
-
Mr. K. Schwartz
Dr. E.W. Brand
Dr. V. Escario
Prof. S.G. Hansbo
Prof. J. Huder
Mr. F. Mawlawi
Prof. E. Togrol
Prof. C.P. Wroth
Prof. H.B. Seed
Dr. I. Trofimenkov
Dr. F.H. Tinoco
Prof. I. Sovinc
Prof. W.R. Mackechnie

NON-VOTING REPRESENTATIVE

Prof. C.A. Micucci
-
-
Prof. E. Lousberg
-
Prof. G. Dingosov
Dr. J.I. Clark
-
Mr. J.Z. Sun
-
Prof. P. Peter
Dr. J.S. Steinfeld
-
-
Prof. M. Tammirinne
Mr. P. Florentin
-
-
Dr. A.G. Anagnostopoulos
-
Prof. R.K. Katti
Mr. R. Ir Soekrisno
-
Dr. E.R. Farrell
Prof. G. Wiseman
-
Prof. K. Ishihara
Mr. G.E. Figueroa-Vega
-
Mr. E.H. de Leeuw
-
Mr. L.A. Ajayi
Dr. O. Tokheim
-
-
Prof. Z. Grabowski
Dr. A. Pinelo
-
Mr. G.W. Donaldson
Prof. A.S. Balasubramaniam
-
Mr. N. Flodin
Dr. F. Bucher
Prof. K. Kayyal
-
Prof. R.E. Gibson
Dr. R.L. Schuster
Dr. V. Mikheev
-
Prof. D. Miladihov

3. CONFIRMATION THAT THERE IS A QUORUM

On taking a roll-call the Secretary General ascertained that of the 51 National Societies in good standing (and therefore entitled to vote at the meeting) some 49 had voting representatives present. There was therefore not only a quorum (one-third required) but also sufficient for changes to be made in the Statutes (two-thirds required).

3. CONFIRMATION DE L'EXISTENCE DU QUORUM

Le Secrétaire Général constate, par un appel nominal, que sur les 51 Sociétés Nationales en situation régulière (et ayant donc le droit de voter), 49 ont des délégués avec pouvoir de vote. Il y a donc non seulement un quorum ordinaire (un tiers), mais également celui nécessaire pour les modifications des Statuts (deux tiers).

4. MEMBERSHIP

The ISSMFE Membership is shown in Appendix I and the following National Societies are at present in bad standing: Iran, Pakistan and Romania. The Secretary General had written to these three Societies on a number of occasions enclosing invoices for their dues and pointing out that they were in bad standing. The most recent letters were dated 24 April 1981 reminding them that in terms of Statute 11 their membership of the International Society was liable to be annulled. The difficulties of communication faced by these countries were appreciated and it was agreed that the Secretary General and Vice Presidents should continue their efforts to make contact with them and to report to the President.

5. The Secretary General was happy to report that Egypt had resumed its membership in January 1980 and Paraguay had come into membership on the 15th April 1981, but had actually paid their fees for 1981 and an amount towards 1982. In addition, Costa Rica have sent their contribution for 59 members for 1981, but there are still one or two papers that are outstanding, before bringing them into membership.

6. LANGUAGE

The following three proposals were made:

Proposal from Finnish National Society that Statute No.4 should read:

Language: "The official language of the Society is English and this shall be used in

- (i) all correspondence with the Secretary General
- (ii) the proceedings of International Conferences
- (iii) the conduct and minutes of Executive Committee meetings
- (iv) the Statutes and other official documents of the Society.

It shall also be used for the proceedings of Regional Conferences but these may also have an additional language selected by the host country."

Motion from the French National Society:

"Bearing in mind the role of the International Society for Soil Mechanics and Foundation Engineering for the spreading and promotion of Science and Technique in its fields of interest, the Executive Committee considers it inopportune that the paragraph 4 of the Statutes, dealing with the official languages of the Society be altered."

Proposal from the Swedish Geotechnical Society that:

"Simultaneous translation from English to French and vice versa should no longer be compulsory at the ISSMFE Conferences; this item is, according to our experience, a heavy burden to the Society in charge of

4. MEMBRES

L'annexe I indique la répartition des Membres de la Société Internationale. Les Sociétés Nationales actuellement en situation irrégulière sont l'Iran, le Pakistan et la Roumanie. Le Secrétaire Général leur a écrit à plusieurs reprises, en joignant l'état de leur cotisation et en leur rappelant leur situation irrégulière. Les lettres les plus récentes, datées du 24 avril 1981, leur rappellent qu'aux termes de l'article 11 des Statuts leur participation à la Société Internationale est en droit d'être annulée. Considérant les difficultés de communication rencontrées par ces pays, il est demandé au Secrétaire Général et aux Vice-Présidents de continuer leurs efforts pour contacter ces Sociétés, et d'en rendre compte au Président.

5. Le Secrétaire Général est heureux d'annoncer que l'Egypte a renoué sa participation depuis janvier 1980, et que le Paraguay est membre depuis le 15 avril 1981, la cotisation payée couvrant 1981 et un avoir pour 1982. De plus, le Costa-Rica a envoyé sa cotisation pour 59 membres en 1981, mais il manque encore quelques papiers avant de rendre l'inscription définitive.

6. LANGUES

Les trois propositions suivantes ont été faites:

. Proposition de la Société Nationale de Finlande de modifier ainsi l'article 4 des Statuts :

Langue : "La langue officielle de la Société est l'anglais qui sera utilisée dans :

- (1) toute correspondance avec le Secrétaire Général.
- (ii) les comptes-rendus des Congrès Internationaux.
- (iii) le déroulement et le procès-verbal du Comité Exécutif.
- (iv) les Statuts et autres documents officiels de la Société.

Elle sera également utilisée dans les comptes-rendus des Congrès Régionaux, mais une langue supplémentaire pourra également être choisie par le pays invitant".

. Motion de la Société Nationale de France :

"Considérant le rôle de la Société Internationale de Mécanique des Sols et des Travaux de Fondations pour la diffusion et la promotion de la Science et de la Technique dans son domaine de compétence, le Comité Exécutif estime qu'il est intempestif de modifier l'article 4 des Statuts relatif aux langues officielles de la Société".

. Proposition de la Société Géotechnique de Suède:

"La traduction simultanée d'anglais en français, et réciproquement, ne sera plus obligatoire aux Congrès Internationaux; d'après notre expérience, ce poste est une lourde charge pour la Société organisatrice du Congrès, et toutes les façons de réduire les coûts à l'avenir doivent être envisagées; ceux qui voudront une

the Conference and all possibilities to decrease the costs in the future should be tried; those who want simultaneous translation as earlier, or even extend it to other languages, may do so but the costs should then be put on the country, or group of countries, who wish to use professional interpreters."

7. A lengthy debate took place on these three proposals, covering such matters as the proportions of French speaking people in the Society, the costs of simultaneous translation and documentation, the status of French as a traditional language and its importance in international communications.

8. The Finnish proposal was seconded by Dr. Poulos and when put to the vote was lost by 5 votes in favour to 35 against. The French proposal was seconded by Prof de Beer and when put to the vote was carried by 30 votes in favour to 8 against. The Swedish proposal was not put to the vote.

9. REGIONAL AFFAIRS

Professor Mohan introduced a proposal concerning Regional affairs. He drew attention to the difficulties of communications in some Regions particularly when it came to the election of the Vice-President and the selection of the venue for a Regional Conference.

10. Prof. Mohan's proposals and the draft revised Statute No. 52 prepared by the late Secretary General were discussed. Prof. Mohan felt that the question of 'bad standing' was not an issue in Regional decision taking and Prof. Sowers pointed out that the Pan American rules do not exclude National Societies in 'bad standing'. Prof. de Beer felt that it was unnecessary to alter the Statutes on these matters and suggested that the Secretary General should prepare guidance notes summarising the discussions to be sent to Vice Presidents who should retain their present authority. Prof. Mackechnie drew attention to the important role that the Secretary General can play in Regional affairs as an independent and impartial advisor. It was agreed that the Secretary General will inform the new President and new Secretary General of the deliberations so that they can take up the question of drafting a guidance note with the Vice-Presidents.

11. MANAGEMENT OF THE SOCIETY (Appendix XXIII)

The President introduced his proposal to set up a Steering Committee whose main purpose was to promote and co-ordinate the activities of the technical sub-committees. During the discussion of this proposal it was stressed by many delegates that a body mainly consisting of the Officers of the Society was needed to assist in the implementation of the decisions of the Executive Committee and in the effective administration of the affairs of the Society.

12. Prof. Sowers then proposed the following motion which was seconded by Mr. Mawlawi:

traduction simultanée comme précédemment, ou même son extension à d'autres langues, pourront avoir recours à des interprètes professionnels dont le coût sera pris en charge par le pays ou le groupe de pays demandeur".

7. Un long débat s'instaure sur ces trois propositions, au cours duquel sont entre autres évoqués le pourcentage des francophones dans la Société, le coût de la traduction simultanée et de la documentation, la position du français comme langue traditionnelle et son importance dans les communications internationales.

8. La proposition finlandaise est appuyée par le Dr. Poulos, et est rejetée par 35 voix contre 5 voix favorables. La proposition française est appuyée par le Prof. de Beer, et est acceptée par 30 voix favorables contre 8. La proposition suédoise n'est pas mise aux voix.

9. AFFAIRES REGIONALES

Le Professeur Mohan présente une proposition concernant les affaires régionales. Il attire l'attention sur les difficultés de communication dans certaines régions, en particulier en ce qui concerne l'élection du Vice-Président, et le choix du lieu d'un Congrès Régional.

10. Les propositions du Prof. Mohan et le projet de révision de l'article 52 des Statuts par le précédent Secrétaire Général sont discutés. Le Prof. Mohan pense que l'exclusion des Sociétés en situation irrégulière n'est pas une bonne chose pour les décisions régionales, et le Prof. Sowers rappelle que, dans les régions pan-américaines, les Sociétés Nationales en situation irrégulière ne sont pas exclues. Le Prof. de Beer pense qu'il n'est pas nécessaire de modifier les Statuts à ce sujet, et propose que le Secrétaire Général résume les discussions par des notes directives adressées aux Vice-Présidents, qui conserveraient leur autorité actuelle. Le Prof. Mackechnie attire l'attention sur le rôle important que peut jouer le Secrétaire Général dans les affaires régionales, en temps que conseiller indépendant et impartial. Il est convenu que le Secrétaire Général informera le nouveau Président et le nouveau Secrétaire Général de ces délibérations, afin qu'ils puissent entreprendre la préparation de notes directives aux Vice-Présidents.

11. DIRECTION DE LA SOCIÉTÉ (Annexe XXIII)

Le Président présente sa proposition de créer un Comité d'Orientation, dont le rôle principal serait de promouvoir et de coordonner les activités des Sous-Comités techniques. Au cours de la discussion de cette proposition, de nombreux délégués insistent sur la nécessité de former un groupe constitué essentiellement des membres du Bureau de la Société et chargé d'aider à l'application des décisions du Comité Exécutif et à l'administration effective des affaires de la Société.

"That a Steering Committee be established consisting of the President, Vice-Presidents, Secretary General, immediate Past-President and 3 members from the Society, nominated by the President. The purpose of this Committee is to advise the President and Secretary General on (1) Membership, (2) Finance and Budget and (3) Establishment and continuity of Technical Committees. The Steering Committee shall bring to the next Executive Committee suggestions for its future scope and make-up".

It was suggested that this Steering Committee should meet at least once a year and that individual members seek their own finance for travel during the immediate future. Also in selecting the three members from the Society, the President should take account of past service on the Executive Committee.

The motion was carried by 28 votes to 6.

13. APPROVAL OF THE BUDGET

The President explained that there was a lack of clarity in the Statutes about the preparation of the budget and its approval. He proposed that the second sentence of Article 30 should be amended to read as follows:

"He is responsible for keeping the accounts of the Society, for the preparation of the budget of receipts and expenditures which shall be approved by the Executive Committee and for payments for the Society up to the limit of the approved budget."

The proposal was seconded by Mr. Adams and carried by 40 votes in favour and none against.

14. The President further suggested that there would be benefit in preparing the budget under two headings:

- (i) the Ordinary budget which is concerned with the administration of the Society and
- (ii) the Special Budget which is concerned with the financing of the work of the Technical Sub-Committees.

The Secretary General agreed that this should be attempted in future.

15. ALLOCATION OF PAGES IN CONFERENCE PROCEEDINGS

The President pointed out that in his experience the allocation by the President of 10% of the total number of pages in the International Conference Proceedings (Minute 22 of the Meeting of the Executive Committee in Tokyo) could be improved if his allocation extended to 'individual members at their request' as well as member countries. During discussion the view was expressed that the President already had enough flexibility in this matter and the President accordingly withdrew his proposal.

12. Le Prof. Sowers propose alors la motion suivante, appuyée par M. Mawlawi :

"Création d'un Comité d'Orientation constitué du Président, des Vice-Présidents, du Secrétaire Général, du précédent Président, et de 3 Membres de la Société, choisis par le Président. Le rôle de ce Comité est de conseiller le Président et le Secrétaire Général sur les points suivants : (1) Membres, (2) Finances et Budget, (3) Création et continuation de Comités Techniques. Le Comité d'Orientation présentera au prochain Comité Exécutif des suggestions concernant son activité et sa constitution à l'avenir".

Il est suggéré que ce Comité d'Orientation se réunisse au moins une fois par an et que ses membres recherchent individuellement le financement de leurs voyages dans le proche avenir. De plus, dans le choix des trois membres de la Société, le Président tiendra compte des services passés rendus au Comité Exécutif.

La motion est adoptée par 28 voix contre 6.

13. APPROBATION DU BUDGET

Le Président explique le manque de clarté des Statuts sur la préparation du budget et son approbation. Il propose que la deuxième phrase de l'article 30 soit modifiée ainsi :

"Il est responsable de la tenue des comptes de la Société, de la préparation du budget des recettes et des dépenses qui devra être approuvé par le Comité Exécutif, et des paiements de la Société dans la limite du budget approuvé".

Cette proposition est appuyée par M. Adams, et votée par 40 voix contre 0.

14. Le Président suggère également qu'il serait avantageux de préparer le budget sous deux rubriques :

- (i) le budget ordinaire, relatif à l'Administration de la Société
- (ii) le budget spécial, relatif au financement des activités des Sous-Comités techniques.

Le Secrétaire Général accepte cette suggestion pour le futur.

15. ATTRIBUTION DES PAGES POUR LES COMPTES-RENDUS DES CONGRES

Le Président indique que, d'après son expérience, l'attribution par le Président de 10 % du nombre total de pages des comptes-rendus des Congrès Internationaux (para. 22 de la réunion du Comité Exécutif de Tokyo) pourrait être améliorée en étendant cette attribution à des "membres individuels, à leur demande" aussi bien qu'à des pays membres. Au cours de la discussion, l'avis est émis que le Président dispose d'une flexibilité suffisante à ce sujet, et le Président retire donc sa proposition.

16. REPORT OF STOCKHOLM CONFERENCE ADVISORY COMMITTEE ^{16.} RAPPORT DU COMITE CONSULTATIF DU CONGRES DE STOCKHOLM

Dr. Lindblom, Secretary General of the Stockholm Conference Organizing Committee presented the report of the Advisory Committee (Appendix II). He drew attention to innovation of running parallel Main Sessions in an effort to cut out subsidiary publications. He would welcome views on this at the end of the Conference. He drew attention to three specific problems the Organizing Committee had faced:

- (i) Late arrival of papers
- (ii) Some papers had not been vetted by the National Societies
- (iii) Some key persons, having accepted their roles, had not arrived in Stockholm.

The President, on behalf of the ISSMFE, warmly thanked the Swedish Organizing Committee for their excellent work.

17. PUBLICATION OF PRACTICAL PAPERS

Dr. Mohan drew attention to the rapidly increasing ratio of theoretical to practical papers. He emphasised the need for more papers dealing with topics such as case records and suggested that the San Francisco Conference Advisory Committee might care to consider this.

18. PLANS FOR THE SAN FRANCISCO (XIth) ICSMFE

Prof. Seed reported on the arrangements that were being made for the 1985 Conference which is to be held over the period of 11th to 16th August 1985. Regarding entry requirements into the USA Prof. Seed quoted a statement from the U.S. State Department to the effect that in general no one is ineligible for entry into the United States solely on the basis of nationality or citizenship. He stressed of course that the U.S. State Department reserves the right to modify its policy from time to time. To date the efforts of the Organizing Committee had been largely devoted to fund raising and expected to have raised the target sum of \$500,000 by the middle of 1983. The President, on behalf of the ISSMFE, warmly thanked the U.S. Organizing Committee for their tremendous efforts and wished them every success.

19. REPORTS OF VICE-PRESIDENTS

The following reports were presented by the Vice-Presidents all of whom referred to the immense help they and their regions had received from the late Secretary General, Kevin Nash.

Africa	Prof.W.R.Mackechnie	Appendix III
Asia	Prof.D.Mohan	Appendix IV
Australasia	Mr.A.D.Hosking	Appendix V
Europe	Prof.B.Broms	Appendix VI
N.America	Prof.G.F.Sowers	Appendix VII
S.America	Prof.F.Martinez	Appendix VIII

Prof.Mohan drew attention to the problem of transferring information from the outgoing to the incoming Vice-President. He suggested that the Vice-Presidents should hand over the files containing important papers to their successor while laying down their offices.

Le Dr. Lindblom, Secrétaire Général du Comité d'Organisation du Congrès de Stockholm, présente le rapport du Comité Consultatif (Annexe II). Il attire l'attention sur l'innovation consistant à tenir des Séances Plénières simultanées, afin de supprimer les publications annexes, et serait ravi de recueillir les avis sur ce sujet à la fin du Congrès. Il attire l'attention sur trois problèmes spécifiques rencontrés par le Comité d'Organisation:

- (i) Arrivée tardive des communications
- (ii) Certaines communications n'ont pas été revues par les Sociétés Nationales
- (iii) Certaines personnes, ayant accepté d'animer certaines Sessions, n'ont pu se rendre à Stockholm.

Le Président, au nom de la Société Internationale, remercie chaleureusement le Comité d'Organisation suédois pour leur excellent travail.

17. PUBLICATION DE COMMUNICATIONS ORIENTEES VERS LA PRATIQUE

Le Dr. Mohan attire l'attention sur la part rapidement croissante que prennent les communications théoriques par rapport à celles orientées vers la pratique. Il souligne la nécessité d'un nombre accru de communications sur des sujets tels que des études de cas et suggère que le Comité Consultatif du Congrès de San Francisco prenne ceci en considération.

18. PROJETS POUR LE XIe CONGRES INTERNATIONAL DE SAN FRANCISCO

Le Prof. Seed rend compte des préparatifs du Congrès de 1985, qui se tiendra du 11 au 16 août. Il cite une déclaration du Département d'Etat relative aux conditions d'entrée aux Etats-Unis indiquant que nul ne peut se voir refuser l'entrée uniquement sur des critères de nationalité ou de citoyenneté. Il souligne que le Département d'Etat se réserve le droit de modifier sa politique à tout moment. A ce jour, les efforts du Comité d'Organisation se sont essentiellement portés vers la collecte de fonds, et la somme visée de 500 000 dollars devrait être réunie à mi-1983. Le Président, au nom de la Société Internationale, remercie chaleureusement le Comité d'Organisation américain de ses formidables efforts, et lui souhaite un plein succès.

19. RAPPORTS DES VICE-PRESIDENTS

Les rapports suivants ont été présentés par les Vice-Présidents, qui indiquent tous l'aide immense apportée à eux-mêmes et à leur région par le précédent Secrétaire Général, le regretté Kevin Nash.

Afrique	Prof.W.R.Mackechnie	Annexe III
Asie	Prof.D.Mohan	Annexe IV
Australasie	Mr.A.D.Hosking	Annexe V
Europe	Prof.B.Broms	Annexe VI
Amérique du N.	Prof.G.F.Sowers	Annexe VII
Amérique du S.	Prof.F.Martinez	Annexe VIII

Le Prof. Mohan attire l'attention sur le problème du transfert d'information entre le Vice-Président sortant et son successeur. Il suggère que, en fin de mandat, les Vice-Présidents remettent à leurs successeurs les dossiers contenant des informations importantes.

20. ANY OTHER BUSINESS

The President reported that on hearing of the death of Prof. Kevin Nash he had asked Prof. Sowers to prepare a commemorative plaque and citation to be presented to Mrs. Mel Nash at the opening ceremony. The plaque, which was shown to the delegates, consists of a brass plate mounted on black walnut and inscribed as follows:

IN MEMORY OF
PROFESSOR J.K.T.L. NASH, 1922-1981
TEACHER, RESEARCHER, MENTOR, FRIEND
WITH RESPECT FROM HIS COLLEAGUES THROUGHOUT THE
WORLD
THE INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND
FOUNDATION ENGINEERING
TENTH CONFERENCE, STOCKHOLM, JUNE 1981

The citation takes the form of a letter to Mel Nash signed by the President, Vice Presidents, Secretary General and all the delegates present.

The proposed citation was accepted with prolonged applause. The President, on behalf of ISSMFE, thanked Professor Sowers for arranging for the plaque and preparing the citation.

13th June 1981

21. REPORTS OF SUB-COMMITTEES

List of Members (Appendix XXII)

Dr. Moh reported that the List of Members for 1981 had been printed and was being distributed. He paid tribute to the immense amount of work put into its compilation by Kevin Nash. Advertisements were again carried in the list with the result that the printing had become virtually self-financing, and we only had to find the postage. He made three suggestions which should be considered for the future:

- (i) The value of the document could be greatly enhanced if it included lists of equipment manufacturers, specialist firms, consulting engineers, etc. from all over the world. By employing modern printing methods it might be possible to up date the list every two years.
- (ii) The list could be made very profitable if professional agencies were used to obtain advertisements.
- (iii) The question of who should be responsible for producing the list should be examined. Perhaps the host society for the International Conference should take it on.

22. Dr. Northey raised the question again of the possibility of producing a combined list of members of ISSMFE, ISRM and IAEG. Prof. de Beer explained that this question was being explored by the Co-ordinating Secretariat but the matter was far from straight forward. Nevertheless he agreed that it was a desirable aim. Dr. Northey then moved the following motion which was seconded by Prof. de Beer:

"That this Executive Committee Meeting confirms the desirability of establishing a combined membership list for the three

20. QUESTIONS DIVERSES

Le Président indique que, dès l'annonce du décès du Prof. Kevin Nash, il a demandé au Prof. Sowers de préparer une plaque commémorative et une citation, qui seront remises à Madame Mel Nash lors de la cérémonie d'ouverture. La plaque, en cuivre montée sur noyer sombre, est présentée aux délégués et porte l'inscription suivante :

A LA MEMOIRE DU
PROFESSEUR J.K.T.L. NASH, 1922-1981
ENSEIGNANT, CHERCHEUR, MENTOR, AMI
AVEC LE RESPECT DE SES COLLEGUES DU MONDE ENTIER
LA SOCIETE INTERNATIONALE DE MECANIQUE DES SOLS
ET DES TRAVAUX DE FONDATIONS
DIXIEME CONGRES, STOCKHOLM, JUIN 1981

La citation, sous la forme d'une lettre à Mel Nash, est signée du Président, des Vice-Présidents, du Secrétaire Général et de tous les délégués présents.

Le projet de citation est accepté par de longs applaudissements. Le Président, au nom de la Société Internationale, remercie le Prof. Sowers d'avoir préparé la plaque et la citation.

13 juin 1981

21. RAPPORT DES SOUS-COMITES

Liste des Membres (Annexe XXII)

Le Dr. Moh indique que la liste des membres en 1981 a été imprimée et est en cours de distribution. Il rend hommage au travail immense fourni par Kevin Nash pour sa compilation. La liste comporte à nouveau des encarts publicitaires, de sorte que l'impression est virtuellement auto-financée, à l'exception de l'affranchissement. Il fait trois suggestions pour l'avenir :

- (i) Le document pourrait gagner en intérêt s'il comportait des listes de fabricants d'équipement, de sociétés spécialisées, d'ingénieurs conseils, etc, du monde entier. L'emploi de techniques modernes d'impression permettrait sa mise à jour tous les deux ans.
- (ii) La liste pourrait être très rentable si l'on faisait appel à des professionnels pour obtenir des encarts publicitaires.
- (iii) Il faudrait examiner qui doit être responsable de l'édition de la liste. Peut-être serait-ce le rôle de la Société qui invite le Congrès International ?

22. Le Dr. Northey soulève à nouveau la question de la possibilité d'éditer une liste commune des membres des Sociétés Internationales de Mécanique des Sols, de Mécanique des Roches et de Géologie de l'Ingénieur. Le Prof. de Beer explique que cette question a été étudiée par le Secrétariat de coordination, mais qu'elle est loin d'être simple. Il admet cependant que c'est un but souhaitable. Le Dr. Northey propose la motion suivante, appuyée par le Prof. de Beer :

"Le Comité Exécutif confirme son souhait de voir établir une liste commune des membres des trois Sociétés Internationales de Géologie de l'Ingénieur, de Mécanique des Roches et de Mécanique des Sols"

The motion was put to the vote and carried by
38 votes in favour to 2 against.

23. The Executive Committee recommended the
continuation of the List of Members Sub-Committee
and the President thanked Prof. Moh and his
committee for their work.

24. Information Advisory Committee

Professor Shields tabled the report of this
sub-committee (Appendix IX). The recommenda-
tions of the report were agreed and the
continuation of the committee recommended.
The President thanked Professor Shields and
his committee for their work.

25. Field and Laboratory Soil Testing

Professor Smoltczyk presented the report
(Appendix X) of this recently established
Committee. The general question of approval
of reports from this type of committee was
raised. It was accepted that consensus
may not be achieved, however Chairmen should
circulate drafts of documents to National
Societies for comment. The continuation
of the sub-committee was recommended and the
President thanked Prof. Smoltczyk and his
committee for their work.

26. Geomechanical Computer Programs

Prof. Eisenstein presented the report of this
sub-committee (Appendix XI). He recommended
that if the work of the committee was to
continue it required an increased membership.
The President suggested that new terms of
reference were also required. The Executive
Committee agreed to these recommendations and
the President thanked Prof. Eisenstein and
his committee for their work.

27. European Penetration Testing

Prof. Broms presented the report (Appendix XII).
The President suggested that the terms of
reference of the committee should be altered
so as to cover the topic world wide and
Prof. Broms agreed. It was suggested that
a suitable title for the committee would be
"Sub-Committee on Penetration Testing".
These recommendations were agreed and the
President thanked Prof. Broms and his committee
for their work.

28. Research Co-Operation

Prof. Martinez presented the report (Appendix
XIII). He also explained the reasons why,
even though he had conceived the idea of the
Committee, it was necessary for him to resign
as its Chairman. Prof. Mohan said he was not
clear what was meant by 'co-operation' and
stressed that in his experience co-operative
research was very difficult to organise. The

Cette motion est acceptée par 38 voix contre 2.

23. Le Comité Exécutif recommande la reconduction
du Sous-Comité de la Liste des Membres, et le
Président remercie de Prof. Moh et son Comité
pour leur travail.

24. Comité Consultatif pour l'Information

Le Prof. Shields fait le rapport de ce Sous-
Comité (Annexe IX), dont les recommandations
sont acceptées et dont la reconduction est
recommandée. Le Président remercie le Prof.
Shields et son comité pour leur travail.

25. Essais de laboratoire et in situ

Le Prof. Smoltczyk présente le rapport (Anne-
xe X) de ce Sous-Comité récemment formé. Au
sujet de l'approbation des rapports de ce
type de comité, on admet qu'un consensus
puisse ne pas être obtenu, et on demande aux
Présidents de diffuser les projets de docu-
ments aux Sociétés Nationales pour commentai-
res. La reconduction du Sous-Comité est re-
commandée, et le Président remercie le Prof.
Smoltczyk et son comité pour leur travail.

26. Programmes d'ordinateur en géomécanique

Le Prof. Eisenstein présente le rapport de ce
Sous-Comité (Annexe XI). Il recommande que le
nombre de ses membres soit augmenté, si le
Comité doit continuer ses travaux. Le Prési-
dent suggère que ses attributions soient éga-
lement revues. Le Comité Exécutif accepte ces
recommandations et le Président remercie le
Prof. Eisenstein et son comité pour leur tra-
vail.

27. Essais de pénétration en Europe

Le Prof. Broms présente le rapport (Annexe
XII). Le Président suggère de modifier les
attributions du comité pour couvrir le sujet
dans le monde entier, ce qu'accepte le Prof.
Broms. Le nom suggéré pour ce comité est
"Sous-Comité pour les essais de pénétration".
Ces recommandations sont acceptées et le
Président remercie le Prof. Broms et son
comité pour leur travail.

28. Co-opération de la recherche

Le Prof. Martinez présente le rapport
(Annexe XIII). Il explique également les
raisons pour lesquelles, même s'il a lancé
l'idée de ce comité, il doit en quitter la
Présidence. Le Prof. Mohan indique que le
terme "co-opération" n'est pas clair, et
que, d'après sa propre expérience, c'est une
tâche très difficile. Le Président suggère
de revoir les attributions de ce comité et,
en fonction de cela, sa reconduction est re-
commandée. Le Président remercie le Prof.
Martinez et son comité pour leur travail.

President suggested that the terms of reference should be reviewed and it was recommended that, subject to this review, the committee should continue. The President thanked Prof. Martinez and his committee for their work.

29. Site Investigation

The report of the committee (Appendix XIV) was presented by Mr. Wilson who outlined plans to produce a 500 page manual which will include a number of case histories for different types of problem and will outline current practice in various countries. It was hoped to publish the manual by 1982. It was recommended that the committee continue and the President thanked Mr. Wilson and his committee for their work.

30. Symbols and Units

Mr. Baguelin presented the report (Appendix XV) and expressed the view that the main task of the committee had been achieved. There was still the task of co-ordination with ISRM and IAEG but he felt that this could be left with the Co-ordinating Secretariat (ISSMFE/ISRM/IAEG). Prof. de Beer felt that the committee should continue in order to help this co-ordination work. Mr. Baguelin agreed provided new terms of reference are given and the President thanked Mr. Baguelin and his committee for their work.

31. Prof. Hansbo introduced an item in which it was argued that the size limit between stones and boulders should be drawn at 600mm rather than 200mm. It was agreed that this suggestion should be referred to the Site Investigation Sub-Committee.

32. Mr. Adams reported on the production of the Lexicon and copies were distributed to delegates. Prof. Wolski asked if permission could be given for the publication of a Polish version and a similar request was made by Mr. Rathmayer for Finland. A long debate took place as to whether a 10% surcharge should be placed on national versions of the Lexicon. The Secretary General pointed out that the Oaxaca resolution on the 10% surcharge only applied to Conference Proceedings. He also felt that the Lexicon had a special role in encouraging international communications. Therefore countries that publish their own version of the Lexicon should be encouraged but should be invited to contribute to the ISSMFE funds. Prof. Wroth moved the following motion which was seconded by Prof. Stefanoff:

"That permission be granted to any National Society to publish a national version of the Lexicon and list of symbols in their own country, making due acknowledgement to the source of the material, and without any payment required to ISSMFE".

Prof. Wroth further suggested that it be minuted that the Executive Committee (a) considered the Lexicon to be a special document not covered by

29. Reconnaissances de sites

Le rapport de ce Sous-Comité (Annexe XIV) est présenté par M. Wilson, qui fait part du projet d'éditer, vraisemblablement en 1982, un recueil de 500 pages comportant des études de cas de différents types de problèmes et indiquant la pratique courante dans différents pays. La reconduction de ce comité est recommandée, et le Président remercie M. Wilson et son comité pour leur travail.

30. Symboles, Unités et Définitions

M. Baguelin présente le rapport (Annexe XV) et indique que le but principal du comité a été atteint. Il reste encore un travail de coordination avec la Mécanique des Roches et la Géologie de l'Ingénieur, qui, à son avis, pourrait être fait par le Secrétariat de Co-ordination. Le Prof. de Beer estime que le comité doit être reconduit pour aider à ce travail de coopération, ce que M. Baguelin accepte, sous réserve de nouvelles attributions. La Président remercie M. Baguelin et son comité pour leur travail.

31. Le Prof. Hansbo suggère que la limite de taille séparant les galets des blocs soit portée à 600 mm plutôt qu'à 200 mm. Il est admis que cette suggestion sera soumise au Sous-Comité des Reconnaissances de Sites.

32. M. Adams rend compte de l'édition du lexique, dont des exemplaires sont distribués aux délégués. Le Prof. Wolski demande l'autorisation de publier une version en polonais, et une demande similaire est faite par M. Rathmayer pour la Finlande. Une longue discussion s'engage sur l'application éventuelle d'une surtaxe de 10 % sur des versions nationales du lexique. Le Secrétaire Général rappelle que la résolution d'Oaxaca sur la surtaxe de 10 % ne s'applique qu'aux comptes-rendus de Congrès. Il estime également que le lexique a un rôle particulier à jouer en encourageant les communications internationales. Les pays qui publient leur propre version du lexique devraient donc être encouragés mais devraient être invités à contribuer au financement de la Société Internationale. Le Prof. Wroth propose la motion suivante, appuyée par le Prof. Stefanoff :

"Toute Société Nationale est autorisée à publier dans son propre pays une version nationale du lexique et de la liste des symboles, en faisant référence au document original, et sans devoir de redevance à la Société Internationale."

Le Prof. Wroth suggère de plus d'inclure au procès-verbal que le Comité Exécutif (a) considère que le lexique est un document spécial auquel ne s'applique pas la résolution d'Oaxaca et (b) suggère que toute Société Nationale faisant usage de la motion ci-dessus soit invitée à fournir un certain nombre d'exemplaires de

the resolution at Oaxaca and (b) suggested that any National Society taking advantage of the above motion should be invited to provide a number of copies of their version of the Lexicon for the Secretary General to distribute, and to make a donation to the funds of the ISSMFE in recognition of the cost of preparing the Lexicon. When put to the vote the motion was carried without dissent. The President congratulated Mr. Adams and those mentioned in the acknowledgements for the excellent volume.

33. Soil Sampling

Dr. Mori presented the report (Appendix XVI) and a copy of the International Manual for the Sampling of Soft Cohesive Soils was distributed to delegates. It was recommended that the committee continue and the President congratulated Dr. Mori and his committee on producing a very useful manual.

34. Code for Foundations in EEC (EC-7)

Prof. Ovesen outlined the background of the formation of this new committee and its proposed activities (Appendix XVII). The continuation of this committee was recommended.

35. Co-ordinating Secretariat (ISSMFE/ISRM/IAEG)

Prof. de Beer reported on the work of this secretariat (Appendix XVIII) and referred to the grave set-back it had suffered due to the death of Dr. Wolters, Secretary General of IAEG, and more recently, Kevin Nash. It was recommended that the work of the secretariat should continue.

36. MEMBERSHIP OF SUB-COMMITTEES

Dr. Poulos moved the following motion which was seconded by Dr. Northey that

"In cases where doubt exists in the mind of the Chairman of a Sub-Committee of the ISSMFE regarding the technical quality of a proposed sub-committee member, the appropriate National Committee shall be consulted before the appointment of that proposed sub-committee member is confirmed".

It was pointed out by Dr. Brand that this motion would not strengthen the present arrangements which in any case work well in the large majority of cases. Dr. Poulos agreed to withdraw his motion.

37. FORMATION OF NEW SUB-COMMITTEES

Mr. Adams introduced a proposal for the establishment of a sub-committee on Landslides with the following terms of reference:

- (i) to ensure continuity in the organization of an International Symposium on Landslides every four years and
- (ii) to collect and disseminate information from National Societies on their

leur version au Secrétaire Général, pour diffusion, et à faire un don à la Société Internationale, en reconnaissance du coût de l'élaboration du lexique. Cette motion est votée sans opposition. Le Président félicite M. Adams et les personnes citées dans les remerciements pour l'excellence du lexique.

33. Echantillonnage des sols

Le Dr. Mori présente le rapport (Annexe XVI) et un exemplaire du Manuel International pour l'échantillonnage des sols cohérents mous est distribué aux délégués. La reconduction du comité est recommandée, et le Président félicite le Dr. Mori et son comité pour l'édition de ce très utile manuel.

34. Code Européen pour les fondations (EC-7)

Le Prof. Ovesen rappelle l'origine de la fondation de ce nouveau Sous-Comité et ses activités envisagées (Annexe XVII). La reconduction de ce comité est recommandée.

35. Secrétariat de Coordination (SIMSIF/SIMR/AIGI)

Le Prof. de Beer fait le rapport du travail de ce secrétariat (Annexe XVIII) frappé par l'adversité du fait du décès du Dr. Wolters, Secrétaire Général de l'AIGI, et plus récemment de Kevin Nash. La poursuite des travaux de ce secrétariat est recommandée.

36. MEMBRES DES SOUS-COMITES

Le Dr. Poulos propose la motion suivante, appuyée par le Dr. Northey :

"En cas de doute dans l'esprit du Président d'un Sous-Comité de la Société Internationale sur la qualité technique d'une personne proposée pour participer à un Sous-Comité, la Société Nationale correspondante sera consultée avant confirmation de cette proposition à l'intéressé."

Le Dr. Brand indique que cette motion ne renforce pas les dispositions actuelles qui, en tout cas, marchent bien dans la majeure partie des cas. Le Dr. Poulos accepte de retirer sa motion.

37. FORMATION DE NOUVEAUX SOUS-COMITES

M. Adams propose de constituer un Sous-Comité sur les glissements de terrain, avec les attributions suivantes :

- (i) assurer une continuité dans l'organisation tous les quatre ans d'un Symposium international sur les glissements de terrains.
- (ii) rassembler et diffuser des renseignements fournis par les Sociétés Nationales sur leurs connaissances en matière de détection, auscultation et prévention des glissements de terrain.

expertise in detecting, monitoring and preventing landslides.

Mr. Adams further recommended that Prof. La Rochelle should be the Chairman of the Sub-Committee and a number of committee members were suggested. The recommendation was accepted without dissent.

38. Prof. Ovesen introduced a proposal from the British and Danish Geotechnical Societies for the establishment of a sub-committee on the use of centrifuges in geotechnical model testing. The aim of the committee would be to collect information on equipment, testing procedures, etc and to conduct a survey on the use of centrifuges in geotechnical model testing to be presented, if feasible, in connection with a speciality session/symposium at the XIth ICSMFE. The President pointed out that this proposed sub-committee differed from previous ones in that it will be strongly research oriented. He thought that this sort of sub-committee should be encouraged. The recommendation was accepted without dissent.

39. Prof. Mohan introduced a proposal for a sub-committee on off-shore geotechnical engineering. A number of delegates expressed the view that there was already a great deal of international activity on this topic and Prof. Mohan withdrew his proposal.

40. CO-OPERATION WITH OTHER INTERNATIONAL SOCIETIES

The Secretary General referred to the correspondence that had taken place between the Director General of CIB and Kevin Nash on the possibility of co-operation. Prof. Mohan spoke in support of establishing links with CIB and Mr. Crawford described the organisation of CIB. He felt that there was the possibility of a working commission in soil mechanics if an approach were made. The Secretary General agreed to pursue the matter.

41. THE NEWSLETTER

The view was expressed that the Newsletter served a most valuable purpose and should be continued. The suggestion was made that it should contain changes of addresses of Secretaries of National Societies, and the Secretary General pointed out that this already takes place.

42. BUDGET AND FINANCE

The Secretary General presented the audited accounts for the years ending 28th February 1979, 1980 and 1981 (Appendix XIX). Attention was drawn to the very high cost of xeroxing during the year 1980/81 and Dr. D'Appolonia explained that much of this was devoted to the production of the Lexicon and the List of Members.

43. Dr. D'Appolonia then presented a preliminary basic budget for the next four years (Appendix XX), prepared by the Secretary General. The receipts are based on current membership at

Mr. Adams recommande de plus que le Président de ce Sous-Comité soit le Prof. La Rochelle, et suggère différents noms de participants. Cette recommandation est acceptée sans opposition.

38. Le Prof. Ovesen propose, au nom des Sociétés Géotechniques britannique et danoise, de constituer un Sous-Comité sur l'utilisation des centrifugeuses dans les essais sur modèles en géotechnique. Le but de ce comité serait de rassembler des renseignements sur les matériels, les méthodes d'essais, etc., et de réaliser une enquête sur l'utilisation des centrifugeuses dans les essais sur modèles en géotechnique, dont les résultats seraient présentés, si possible, en liaison avec une session spéciale ou un symposium lors du XIe Congrès. Le Président souligne que ce Sous-Comité proposé diffère des précédents par sa forte orientation vers la recherche, ce qui, à son avis, doit être encouragé. Cette recommandation est acceptée sans opposition.

39. Le Prof. Mohan propose un Sous-Comité sur la géotechnique off-shore. Plusieurs délégués sont d'avis qu'il y a déjà une large activité internationale sur ce sujet et le Prof. Mohan retire sa proposition.

40. COOPERATION AVEC D'AUTRES SOCIÉTÉS INTERNATIONALES

Le Secrétaire Général fait état d'une correspondance entre le Directeur Général du CIB et Kevin Nash au sujet d'une collaboration éventuelle. Le Prof. Mohan est favorable à l'établissement de lien avec le CIB, dont l'organisation est décrite par M. Crawford. Il pense que l'on pourrait chercher à constituer un groupe de travail en mécanique des sols. Le Secrétaire Général accepte de donner une suite à l'affaire.

41. LETTRÉ CIRCULAIRE DE LA SOCIÉTÉ INTERNATIONALE

L'avis général est que la lettre circulaire est très utile, et que son service doit être continué. A la suggestion d'y faire figurer les changements d'adresses des Secrétaires des Sociétés Nationales, le Secrétaire Général répond que c'est déjà le cas.

42. BUDGET ET FINANCES

Le Secrétaire Général présente les comptes vérifiés pour les exercices annuels clos à fin février 1979, 1980 et 1981 (Annexe XIX). Le coût très élevé de la reproduction pour l'exercice 1980/81 retient l'attention, et le Dr. D'Appolonia explique qu'il est dû en grande partie à l'édition du lexique et de la liste des membres.

43. Le Dr. D'Appolonia présente ensuite un projet de budget pour les quatre prochaines années (Annexe XX), préparé par le Secrétaire Général. Les recettes sont basées sur

sFr.4.00 per year and Group Numbers at sFr.150 per year. The payments are based on the present salaries of the Secretariat and projected office expenses. The travel expenditure takes account of the regional activities and International Conference in the next four years. After a few points of clarification the preliminary basic budget was approved without dissent.

44. It was pointed out that during his term of office the expenses of the President were paid for by the Japanese National Society. Prof. de Beer moved a vote of thanks to the generosity of the Japanese National Society to the ISSMFE. This was accepted with acclamation.

45. REGIONAL CONFERENCES - TRAVEL EXPENSES AND SURCHARGES

Dr. Northey introduced a paper on this subject (Appendix XXI). The paper draws attention to the heavy burden that two recent resolutions of the Executive Committee have placed on the financing of regional conferences viz.

- (i) The resolution (Minute 49 Tokyo meeting) "That as part of its commitment in hosting international and regional conferences, the host country should pay all travel and out-of-pocket expenses of the President, Secretary General and Regional Vice President in relation to the planning and preparation of international and regional conferences, as well as all associated secretarial salaries and expenses, and overheads".
- (ii) The resolution (Minute 20(i) Oaxaca meeting) "That a surcharge of 10% be imposed on the registration fee and the cost of the Proceedings in order to assist ISSMFE with its own finances".

46. There was a very lengthy discussion on these problems and two points emerged from it. Firstly that the Regions should have the independence to make the arrangements for their Regional Conferences without necessarily having to call on the President and Secretary General at the planning stage. It was pointed out that many successful Regional Conferences have been held without invoking the Tokyo resolution. Secondly the origins of the 10% surcharge were obscure and Dr. D'Appolonia felt that the original intention had been to apply it to the post conference sale of proceedings.

47. It was felt that there was a need to review the situation and while this was being done to suspend the two resolutions. As a first step in this Dr. Northey moved that Section 4 of Appendix XXI be adopted and this was seconded by Prof. Wroth. The motion was carried without dissent.

48. Mr. Wilson then moved "that until the review requested in the resolution recorded in Minute 47 has been completed the payment of the 10% surcharge in Minute 20(i) of the Oaxaca Meeting

le nombre actuel de membres et sur des cotisations de 4.00 F suisses par membre et de 150 F suisses par numéro de groupe. Les dépenses sont basées sur le coût salarial actuel du Secrétariat et sur les dépenses courantes prévues. Les frais de voyage prennent en compte les manifestations régionales et le Congrès International au cours des quatre prochaines années. Après clarification de certains points, le projet de budget est approuvé sans opposition.

44. Les dépenses du Président au cours de son mandat ont été prises en charge par la Société Nationale Japonaise. Le Prof. de Beer propose un vote de remerciements à la Société Nationale Japonaise pour sa générosité envers la Société Internationale, qui est accepté par acclamations.

45. CONFERENCES REGIONALES - FRAIS DE VOYAGE ET SURTAXES

Le Dr. Northey présente une note à ce sujet (Annexe XXI), qui attire l'attention sur la lourde charge imposée par deux résolutions récentes du Comité Exécutif sur le financement des congrès régionaux, i.e.:

- (i) (\$49 de la réunion de Tokyo): "Un pays invitant un congrès international ou régional devrait s'engager à payer le voyage et tous les frais du Président, du Secrétaire Général et du Vice-Président régional en rapport avec l'organisation et la préparation du congrès international ou régional, ainsi que toutes les dépenses et coûts salariaux de secrétariat, et les frais généraux correspondants".
- (ii) (\$20 (i) de la réunion d'Oaxaca): "Une surtaxe de 10 % sera appliquée sur les droits d'inscription et sur le coût des comptes-rendus pour aider au financement de la Société Internationale".

46. Une longue discussion s'engage sur ce problème, dont il ressort deux points. D'abord, que les Régions doivent pouvoir en toute indépendance organiser les Congrès Régionaux sans avoir nécessairement à faire appel pour cela au Président et au Secrétaire Général. De nombreux Congrès Régionaux se sont tenus avec succès sans que la résolution de Tokyo ait été invoquée. Ensuite, l'origine de la surtaxe de 10 % est obscure et le Dr. D'Appolonia pense que l'intention initiale était de l'appliquer aux ventes de comptes-rendus après les Congrès.

47. L'avis général est qu'il faut revoir la situation et, en attendant, suspendre les deux résolutions. En première étape, le Dr. Northey propose la motion du chapitre 4 de l'Annexe XXI, appuyée par le Prof. Wroth. Cette motion est adoptée sans opposition.

48. M. Wilson propose alors que, "jusqu'à la révision indiquée ci-dessus, soient suspendus

and the payment of the expenses of officers in Minute 49 of the Tokyo Meeting, as applied to Regional Conferences, be suspended." The motion was seconded by Mr. Rathmayer and when put to the vote was carried by a large majority.

49. INVITATIONS FOR XIIth ICSMFE - 1989

On behalf of the Indian National Society Prof. Narain issued a warm invitation for holding the 12th International Conference in Delhi. He stated that India had hosted many international conferences in the recent past and no restrictions were imposed on foreign nationals by the Indian Government. Prof. Smolczyk then outlined a proposal from the German National Society to hold a 'World Fair of Geotechnics' as a joint activity of ISRM, IAEG and ISSMFE. He felt that such a concept would activate a large number of participants and thus reduce expenses.

50. Many delegates, while expressing gratitude to India, felt that eight years was too far ahead to make a commitment. Regarding the proposal from FRG it was felt that such a combined approach at the full International Conference level was not practical. However the idea was very worthwhile for the discussions of specialist topics of common interest to the three Societies. Prof. Kanji then proposed the following motion which was seconded by Dr. Poulos:

"That this Executive Committee, on behalf of ISSMFE, thank most sincerely the Indian National Society for its generous invitation for the 12th ICSMFE but that the decision on the venue of this Conference be taken at the next meeting of the Executive Committee."

The motion was carried by a large majority.

51. INVITATIONS FOR THE 1983 EXECUTIVE COMMITTEE MEETING

On behalf of the French National Society Prof. Habib issued an invitation to hold the 1983 Executive Committee Meeting in Paris in May 1983 just prior to the European Regional Conference in Helsinki. On behalf of the Canadian National Society Mr. Adams issued an invitation to hold the above meeting in Vancouver in June 1983 in conjunction with the 7th Pan American Conference. When a vote was taken there were 30 in favour of Paris and 5 in favour of Vancouver. Accordingly the next meeting of the Executive Committee will be held in Paris.

52. VICE-PRESIDENTS FOR THE PERIOD 1981-85

It was noted that the following have been elected by the majority of the votes of the National Societies within the various Regions (in accordance with Statute No.25):

pour les Congrès Régionaux le paiement de la surtaxe de 10 % indiquée au §20 (i) de la réunion d'Oaxaca, et le paiement des dépenses des membres du bureau indiquées au §49 de la réunion de Tokyo." Cette motion, appuyée par M. Rathmayer, est votée à une large majorité.

49. INVITATIONS POUR LE XIIe CONGRES INTERNATIONAL DE 1989

Au nom de la Société Nationale de l'Inde, le Prof. Narain invite chaleureusement le 12e Congrès International à se tenir à Delhi. Il indique que l'Inde a invité de nombreux congrès internationaux récemment, et que le Gouvernement indien n'impose aucune restriction à l'entrée de ressortissants étrangers. Le Prof. Smolczyk présente alors une proposition de la Société Nationale d'Allemagne Fédérale de tenir une "Foire Géotechnique Mondiale" commune à la SIMR, à l'AIGI et à la SIMSTF. Il pense que cela susciterait une participation étendue et réduirait les dépenses.

50. De nombreux délégués, tout en exprimant leur gratitude à l'Inde, estiment qu'il est prématuré de prendre un engagement huit ans à l'avance. La proposition allemande est considérée d'application difficile au niveau d'un Congrès International, mais l'idée est très valable pour des discussions sur des sujets spécialisés communs à l'intérêt des trois Sociétés. Le Prof. Kanji propose alors la motion suivante, appuyée par le Prof. Poulos :

"Le Comité Exécutif, au nom de la Société Internationale, remercie très sincèrement la Société Nationale de l'Inde d'avoir généreusement invité le 12e Congrès International, mais remet le choix du lieu de ce congrès à sa prochaine réunion."

Cette motion est adoptée à une large majorité.

51. INVITATIONS POUR LA REUNION DU COMITE EXECUTIF DE 1983

Au nom de la Société Nationale de France, le Prof. Habib invite le Comité Exécutif à tenir sa prochaine réunion à Paris, en mai 1983, avant le Congrès Régional européen d'Helsinki. Au nom de la Société Nationale du Canada, M. Adams invite cette réunion à se tenir à Vancouver en juin 1983, en liaison avec le 7e Congrès pan-américain. Un vote donne 30 voix en faveur de Paris et 5 voix en faveur de Vancouver. La prochaine réunion du Comité Exécutif aura donc lieu à Paris.

52. VICE-PRESIDENTS POUR LA PERIODE 1981-85

Les personnes suivantes ont été élues à la majorité des voix des Sociétés Nationales de chaque région (conformément à l'article 25 des Statuts) :

Africa	Mr. L.C.Wilson	S.Africa
Asia	Prof. F.K.Chin	S.E.Asia
Australasia	Dr. R.D. Northey	New Zealand
Europe	Prof. A.Croce	Italy
N.America	Mr. C.B.Crawford	Canada
S.America	Prof. J.C.Hiedra-Lopez	Venezuela

Afrique	M. L.C.Wilson	Rép.Sud Africaine
Asie	Prof.F.K.Chin	Asie du Sud-Est
Australasie	Dr.R.D.Northey	Nouvelle Zélande
Europe	Prof. A.Croce	Italie
Amérique du N.	M. C.B.Crawford	Canada
Amérique du S.	Prof.J.C.Hiedra-Lopez	Vénézuéla

53. ELECTION OF PRESIDENT FOR PERIOD 1981-85

The following candidates were duly nominated for the post of President, ISSMFE, for the period 1981-85

	Vote 1	Vote 2
Prof.B.B.Broms, Sweden	13	19
Prof.V.F.B.de Mello, Brazil	22	30
Prof.H.B.Seed, USA	12	
	47*	49

* 2 spoilt papers

The results of two successive votes are shown above. Professor de Mello was therefore elected as President of the ISSMFE and the result was greeted with applause.

54. APPOINTMENT OF SECRETARY GENERAL

The Secretary General reported that in his proposals relating to the management of the Society (Appendix IV of the Agenda) the President had referred to the need for an amendment to Article 29 of the Statutes in relation to the appointment of the Secretary General. Also two proposals had been tabled, one from Canada and another from the United Kingdom.

55. On behalf of the Canadian National Society Dr. Clark outlined a proposal in which Canada offered to house the Secretariat General for the next five years to be reviewed at the 1985 Executive Meeting in San Francisco with an open option for an additional five years and that Professor Donald H. Shields be appointed as the Secretary General through to 1986. He went on to outline a proposal in which the Canadian National Society would be prepared to shoulder the full costs of the Secretariat General including the salary of the Secretary General. Finally he suggested that the funds currently budgeted for the support of the Secretariat General be redirected to a Technical Activities Fund for technology transfer for developing countries to be administered through ISSMFE.

56. Prof. Wroth then outlined the views of the British National Society on the job of Secretary General viz. it should not be a full-time one but part-time with adequate remuneration. The Secretary General should be totally fluent in English and have a working knowledge of French. He needs to be supported by adequate secretarial services.

53. ELECTION DU PRESIDENT POUR LA PERIODE 1981-85

Les candidats régulièrement désignés pour le poste de Président de la Société Internationale pour la période 1981-85, sont:

	1er tour	2ème tour
Prof.B.B.Broms, Suède	13	19
Prof.F.B.de Mello, Brésil	22	30
Prof.H.B.Seed, Etats-Unis	12	
	47*	49

* 2 bulletins nuls.

Les résultats des deux tours de scrutin sont indiqués ci-dessus. Le Professeur de Mello est élu Président de la Société Internationale, et le résultat du vote est accueilli par des applaudissements.

54. NOMINATION DU SECRETAIRE GENERAL

Le Secrétaire Général rappelle que, dans ses propositions relatives à la direction de la Société (Annexe IV de l'ordre du jour), le Président a indiqué la nécessité de modifier l'article 29 des Statuts en ce qui concerne la nomination du Secrétaire Général. Deux propositions, l'une du Canada et l'autre du Royaume-Uni, ont été également reçues.

55. Au nom de la Société Nationale du Canada, le Dr. Clark expose la proposition du Canada d'héberger le Secrétariat Général pendant les cinq prochaines années, proposition révisable lors de la réunion du Comité Exécutif de 1985 à San Francisco, avec une option possible pour les cinq années suivantes, et de nommer le Professeur Donald H. Shields comme Secrétaire Général jusqu'en 1986. Il souligne le fait que la Société Nationale du Canada est prête à prendre en charge la totalité des coûts du Secrétariat Général, y compris le salaire du Secrétaire Général. Il suggère enfin que l'argent actuellement prévu au budget pour le financement du Secrétariat Général soit réemployé dans un Fonds d'activités techniques pour le transfert de technologie vers les pays en voie de développement, qui serait géré par la Société Internationale.

56. Le Prof. Wroth expose alors la position de la Société Nationale Britannique sur le poste de Secrétaire Général, qui ne doit pas être à plein temps, mais à temps partiel, avec une rémunération suffisante. Le Secrétaire Général devrait parler très couramment l'anglais et connaître suffisamment bien le français. Il doit avoir l'aide de services de secrétariat suffisants.

The British National Society also considers that there should be a well defined procedure for

- (i) the appointment of the Secretary General
- (ii) the appointment of a successor in the unhappy event of the death or retirement of the holder and
- (iii) the removal of the Secretary General from office should that ever prove necessary.

The selection of the Secretary General should be the responsibility of the newly formed Steering Committee who should invite proposals from National Societies or individuals. The selected candidate should be approved by the Executive Committee before his appointment is confirmed.

57. Following some general discussion Prof. Broms expressed the view that time was needed to evaluate the separate proposals. The Steering Committee should seek and evaluate possible candidates and the Executive Committee should not attempt to make a quick decision at this time. Many other delegates spoke in favour of this suggestion. Prof. Wroth then proposed the following motion which was seconded by Prof. Togrol

"That the current meeting of the Executive Committee be adjourned and reconvened on Wednesday 17th June at 14.00 hrs. Meanwhile an ad hoc committee be established consisting of the President, President-elect, Vice Presidents-elect and the Chairman of the Budget and Finance Committee and which is charged to make recommendations concerning the appointment of the Secretary General."

The motion was carried without dissent and the meeting was adjourned at 20.10 hrs.

17th June 1981

58. (a) Prof. de Mello reported on the meeting of the Ad Hoc Committee. The ad hoc committee consisted of Prof. Fukuoka, Mr. L.C. Wilson, Prof. Chin, Dr. Northey, Prof. Croce, Mr. Crawford, Prof. Hiedra-Lopez, Prof. de Mello and Dr. D'Appolonia. The Secretary General acted as secretary. Prof. de Mello was nominated to chair the meeting.

It was confirmed that the terms of reference of the ad hoc committee were:

"To make recommendations concerning the appointment of the Secretary General".

- (b) The committee first discussed the present trends in the functioning and management of the Society and Prof. de Beer very kindly gave his views based on the intimate knowledge of the three sister societies ISSMFE, ISRM and IAEG. Prof. de Mello summarised the views of the ad hoc committee in the form of a preamble in which

La Société Nationale Britannique considère qu'il devrait y avoir une procédure bien établie pour :

- (i) la nomination du Secrétaire Général
- (ii) la nomination d'un successeur dans l'éventualité regrettable du décès ou de la démission du titulaire
- (iii) le remplacement du Secrétaire Général en fonction si cela s'avérait nécessaire.

Le choix du Secrétaire Général devrait être la responsabilité du Comité d'Orientation nouvellement formé, qui fera un appel de candidature auprès des Sociétés Nationales ou d'individus. Le candidat choisi devra recevoir l'approbation du Comité Exécutif avant que sa nomination ne soit confirmée.

- 57.A la suite d'une discussion générale, le Prof. Broms fait valoir qu'il est nécessaire de disposer de temps pour évaluer les différentes propositions. Le Comité d'Orientation devrait rechercher et évaluer les candidatures potentielles et le Comité Exécutif ne devrait pas chercher à prendre une décision hâtive à l'instant. De nombreux délégués sont favorables à cette suggestion. Le Prof. Wroth propose alors la motion suivante, appuyée par le Prof. Togrol :

"La présente réunion du Comité Exécutif est suspendue et sera reprise le mercredi 17 juin à 14 h. Entre temps, un comité ad-hoc, constitué du Président, du nouveau Président, des nouveaux Vice-Présidents et du Président du Sous-Comité du Budget et des Finances, est chargé de faire des recommandations au sujet de la nomination du Secrétaire Général."

La motion est adoptée sans opposition, et la réunion est suspendue à 20h10.

17 juin 1981

58. (a) Le Prof. de Mello fait le rapport de la réunion du Comité ad-hoc, dont les membres sont : Prof. Fukuoka, M. L.C. Wilson, Prof. Chin, Dr. Northey, Prof. Croce, M. Crawford, Prof. Hiedra-Lopez, Prof. de Mello et Dr. D'Appolonia. Le secrétariat en était assuré par le Secrétaire Général, et la présidence par le Prof. de Mello.

Il est confirmé que les attributions du Comité ad-hoc sont de :

"faire des recommandations au sujet de la nomination du Secrétaire Général."

- (b) Le Comité a d'abord discuté des tendances actuelles du fonctionnement et de la direction de la Société, et le Prof. de Beer a aimablement donné son point de vue basé sur sa connaissance approfondie des trois Sociétés sœurs, la SIMSTF, la SIMR et l'AIGI. Le Prof. de Mello a résumé les points de vue du comité ad-hoc sous la forme du préambule suivant :

the following points were made:

- (i) In the early days of the Society the emphasis had been on dissemination and growth "from the bottom up" with considerable flexibility in national and regional affairs. A central feature of this was the broad interchange at four-yearly international gatherings.
- (ii) For the last 20 years the Society has gained in effectiveness and stature through the efforts of the central General Secretariat and a very special and grateful recognition has been given, and duly so, to Prof. Kevin Nash's great devotion to ISSMFE.
- (iii) It is felt that the trend towards centralization, with the inevitable need for a full time Secretary General and Secretariat, is leading to rapidly increasing costs. Moreover such centralization could lead to increasing frustration, not only by young enthusiastic geotechnicians who find ISSMFE and its conferences inaccessible, but also by Regions and National Societies where significant technical, financial, administrative differences exist. Such feelings have been voiced in the past and find experience again in the reports of the Vice Presidents to this Executive Committee Meeting.
- (iv) Hence the ad hoc committee formed the view that this is the time to re-direct the trend for centralization towards Regional growth in which future emphasis should be given to the development of strong regional centres which, besides performing a vital technical role, could be used to ease the burden on the central Secretariat of routine secretarial and administrative work.
- (v) Such an approach requires further detailed study and much of it is, in any case, of an evolutionary nature. It is recommended that the Steering Committee report to the Paris 1983 Executive Committee. For present purposes the important conclusion is that the ad hoc committee do not envisage the appointment of a full-time Secretary General.
- (c) The ad hoc committee then consulted Prof. Burland as to the possibility of his continuing as Secretary General and it was learned that as an absolute limit he would consider continuing the part time post for up to 4 months.
- (d) The Delegates of the British Geotechnical Society and the Canadian Geotechnical Society were separately interviewed for further details regarding prospective candidates and the details of the proposals. It was established that the terms of the offers could be held in abeyance for 3 or 4 months while procedures were implemented for inviting proposals, evaluating them and negotiating as necessary.
- (i) Dans les premiers temps de la Société l'accent a été mis sur la diffusion et la croissance "de bas en haut", avec une flexibilité considérable pour les Sociétés Nationales et les Régions, et de larges échanges au cours de réunions internationales tous les quatre ans.
- (ii) Au cours des vingt dernières années, la Société a gagné en efficacité et en taille par les efforts d'un bureau central du Secrétariat Général. Le grand dévouement du Prof. Kevin Nash à la Société Internationale a été signalé à juste titre avec une très spéciale reconnaissance.
- (iii) La tendance à la centralisation, d'où la nécessité inévitable d'un Secrétariat et d'un Secrétaire Général à plein temps, entraîne une augmentation rapide des coûts. De plus, une telle centralisation pourrait accroître le sentiment de frustration, non seulement de jeunes géotechniciens enthousiastes, pour qui la Société Internationale et ses Congrès seraient inaccessibles, mais également de Régions et de Sociétés Nationales où il existe de nettes différences techniques, financières et administratives. De tels sentiments ont été exprimés dans le passé et à nouveau dans les rapports des Vice-Présidents à cette réunion du Comité Exécutif.
- (iv) Le Comité ad-hoc a donc exprimé l'idée que l'heure était venue de retourner la tendance de la centralisation vers la croissance régionale, en mettant l'accent pour le futur sur le développement de centres régionaux puissants qui, en plus de leur rôle technique vital, pourraient servir à alléger la tâche du Secrétariat central des travaux administratifs et de secrétariat courants.
- (v) Une telle approche demande une analyse plus détaillée et, en tout cas, est pour la plupart de nature évolutive. Le Comité d'Orientation en fera rapport au Comité Exécutif qui se tiendra à Paris en 1983. Dans l'état actuel, la conclusion importante est que le comité ad-hoc n'envisage pas la nomination d'un Secrétaire Général à plein temps.
- (c) Le Comité ad-hoc s'est ensuite enquis auprès du Prof. Burland sur ses possibilités de poursuivre sa tâche de Secrétaire Général, et l'extrême limite pendant laquelle celui-ci accepterait de poursuivre cette tâche à temps partiel est de 4 mois.
- (d) Les délégués des Sociétés Géotechniques Britannique et Canadienne ont été entendus séparément, pour plus d'information sur leurs candidats potentiels et sur le détail de leurs propositions. Il a été établi que les termes de ces offres resteraient en suspens pendant une période de 3 ou 4 mois, durant laquelle des dispositions seraient prises pour faire appel de candidatures, les examiner et les discuter si nécessaire.

(e)

It is therefore recommended that in the best interests of the Society the Executive Committee delegate the task of selecting a candidate for the post of part time Secretary General, having the responsibilities presently set out in the Statutes, to the newly formed Steering Committee. That the widest and wisest possible selection be achieved within the forthcoming 3 month period. That if there is any doubt about the long-term nature of the appointment preference should be given to retaining the Secretariat in London until the Paris 1983 Executive Committee Meeting.

(f)

It was pointed out that if these recommendations are accepted it is necessary to change the Statutes which, as pointed out by the President, need clarification. It was therefore proposed that the first sentence of Statute 29 be replaced by the following:

"The Secretary General shall be appointed by the President, after having sought the advice of the Vice Presidents (and Officers-elect if an election has taken place). The appointment shall be reported to the Executive Committee for ratification. The appointment shall be reviewed at each meeting of the Executive Committee."

It is believed that this proposal allows for efficient and effective selection and appointment of a candidate while at the same time having appropriate safe-guards built in.

(g)

Finally, the ad hoc committee recommended that the newly formed Steering Committee be formalized by Wednesday if at all possible so that the first meeting of this committee could be held in Stockholm.

59. During the ensuing discussions views were expressed by Prof. Mohan that the post should be full-time. However Mr. Adams and others felt that with a full-time secretary the Secretary General post could be carried out part-time thereby allowing him time to remain in close contact with his discipline and profession. The recommendations in Minute 58(e) were carried without dissent.

60. Prof. de Beer proposed the following motion (seconded by Prof. Wroth):

"considering the present emergency the Executive Committee delegates to the President under Statute 34, the authority to appoint the next Secretary General in accordance with Minute 58(e) and to report to the next Executive Committee Meeting."

carried without dissent.

61. APPOINTMENT OF BANKERS AND AUDITORS

The President proposed that the services of Messrs. Barclays Bank Limited and Schweizerische Kreditanstalt be retained. He further

(e)

Il est donc recommandé - que, dans le meilleur intérêt de la Société, le Comité Exécutif délègue au Comité d'Orientation nouvellement formé la tâche de choisir un candidat pour le poste à temps partiel de Secrétaire Général, avec les responsabilités figurant actuellement aux Statuts; - que le choix le plus vaste et le plus avisé possible soit accompli au cours de la prochaine période de 3 mois; - que en cas de doute sur le caractère à long terme de la nomination, préférence soit donnée à maintenir le Secrétariat à Londres jusqu'à la réunion du Comité Exécutif en 1983 à Paris.

(f)

Il est indiqué que l'acceptation de ces recommandations rendrait nécessaire de modifier les Statuts qui, comme indiqué par le Président, nécessitent une clarification. Il est donc proposé de remplacer la première phrase de l'article 29 des Statuts par la suivante :

"Le Secrétaire Général est nommé par le Président, après avoir recueilli l'avis des Vice-Présidents (et des nouveaux membres du Bureau si une élection a eu lieu). Cette nomination sera présentée au Comité Exécutif pour ratification. La nomination est révisable à chaque réunion du Comité Exécutif."

Cette proposition devrait permettre de choisir et de nommer un candidat efficacement et effectivement, tout en comportant des garanties satisfaisantes.

(g)

Le Comité ad-hoc recommande enfin que le Comité d'Orientation nouvellement formé soit formellement constitué si possible ce mercredi, pour permettre une première réunion de ce comité à Stockholm.

59. Au cours des discussions qui s'ensuivent, le Prof. Mohan exprime le point de vue que le poste devrait être à plein temps. Cependant M. Adams et d'autres délégués pensent qu'avec un secrétariat à plein temps, le poste du Secrétaire Général pourrait être à temps partiel, pour lui laisser le temps de rester en contact étroit avec sa discipline et la profession. Les recommandations du §58 (e) sont approuvées sans opposition.

60. Le Prof. de Beer propose la motion suivante, appuyée par le Prof. Wroth :

"Considérant l'urgence actuelle, le Comité Exécutif, en vertu de l'article 34 des Statuts, délègue au Président le mandat de nommer le prochain Secrétaire Général, conformément au §58 (e), et d'en référer à la prochaine réunion du Comité Exécutif."

Cette motion est approuvée sans opposition.

61. NOMINATION DES BANQUES ET DES COMMISSAIRES AUX COMPTES

Le Président propose de conserver les services de Barclays Bank Limited et de Schweizerische

recommended that Messrs. Deloitte Haskins and Sells be retained as the Societies auditors. These recommendations were agreed.

62. ANY OTHER BUSINESS

Prof. Seed proposed on behalf of 25 co-sponsoring National Societies that the Society should institute a gold medal to commemorate the contribution Kevin Nash has made to the Society and to foster his ideals. He proposed that the medal should have the title:

KEVIN NASH GOLD MEDAL OF THE ISSMFE

He further proposed that the medal should be awarded to a person who, through his distinction as an engineer, through his international contributions to engineering practice and education, through his contributions to international good will, and through his service to the Society has made a major contribution to fostering the ideals and goals of the International Society for Soil Mechanics and Foundation Engineering throughout the world.

The recipient is to be selected by a committee composed of Past Presidents of the Society and the announcement will be made at the conclusion of the programme of each International Conference. Presidents and Past Presidents are not eligible to receive the Award.

The proposal was seconded by Mr. Adams and was greeted with prolonged applause and accepted forthwith. The Secretary General was asked to minute that the Steering Committee should co-ordinate the implementation of this proposal.

63. VOTE OF THANKS

A vote of thanks was proposed by Prof. Ishihara and seconded by Prof. Togrol to the Swedish Organizing Committee for all their arrangements for the Executive Committee. This was carried with acclamation.

Prof. de Beer proposed a vote of thanks to the President for all his hard work during his term of office as witnessed by the great increase in activity over this time. The motion was seconded by Prof. Mohan and carried with acclamation.

The President closed the meeting at 16.20 hrs.

Kreditanstalt. Il recommande également de maintenir Deloitte, Haskins et Sells comme Commissaires aux Comptes. Ces recommandations sont approuvées.

62. QUESTIONS DIVERSES

Le Prof. Seed, au nom de 25 Sociétés Nationales co-signataires, propose que la Société Internationale institue une médaille d'or commémorant la contribution de Kevin Nash à la Société et développant son idéal. Il propose que la médaille porte l'inscription :

MEDAILLE D'OR KEVIN NASH DE LA SIMSTF

Il propose également que la médaille soit attribuée à une personne qui, par sa distinction comme ingénieur, par sa contribution internationale à l'enseignement et à la pratique de l'art de l'ingénieur, par sa contribution aux décisions internationales, et par ses services rendus à la Société, aura apporté une contribution majeure au développement à travers le monde de l'idéal et de l'objet de la Société Internationale de Mécanique des Sols et des Travaux de Fondations.

Le récipiendaire sera choisi par un comité constitué des anciens Présidents de la Société, et l'annonce en sera faite en conclusion du programme de chaque Congrès International. Les Présidents et les anciens Présidents ne sont pas éligibles pour cette distinction.

Cette proposition est soutenue par M. Adams et est accueillie par des applaudissements prolongés et acceptée sur le champ. Le Secrétaire Général est prié de noter que le Comité d'Orientation est chargé de coordonner la mise en oeuvre de cette proposition.

63. VOTE DE REMERCIEMENTS

Le Prof. Ishihara, appuyé par le Prof. Togrol, propose un vote de remerciements au Comité d'Organisation Suédois pour toutes les dispositions prises pour le Comité Exécutif, ce qui est fait par acclamations.

Le Prof. de Beer propose un vote de remerciements au Président pour tous les efforts fournis en cours de son mandat, comme en témoigne l'important regain d'activité pendant cette période. Cette motion, appuyée par le Prof. Mohan, est approuvée par acclamations.

Le Président met fin à la réunion à 16h20.

Appendix I

MEMBERSHIP AT 13th JUNE 1981

Total	National Society	Europe	Asia	Africa	North America	South America	Australasia	Total
84	Argentina					84		84
162	Australia						162	162
67	Austria	67						67
85	Belgium	85						85
197	Brazil					197		197
92	Bulgaria	92						92
755	Canada				755			755
30	Chile					30		30
100	China		100					100
56	Colombia					56		56
46	Czechoslovakia	46						46
228	Denmark	228						228
43	Dominican Rep.					43		43
57	Ecuador					57		57
61	Egypt			61				61
198	Finland	198						198
849	France	849						849
1003	FRG	1003						1003
22	GDR	22						22
55	Ghana			55				55
87	Greece	87						87
25	Hungary	25						25
259	India		259					259
58	Indonesia		58					58
30	Iran		30					30
73	Ireland	73						73
116	Israel		116					116
1059	Italy	1059						1059
771	Japan		771					771
402	Mexico				402			402
104	Morocco			104				104
285	Netherlands	285						285
211	New Zealand						211	211
53	Nigeria			53				53
281	Norway	281						281
36	Pakistan		36					36
21	Paraguay					21		21
59	Peru					59		59
120	Poland	120						120
107	Portugal	107						107
27	Romania	27						27
470	S.Africa			470				470
612	S.E. Asia		612					612
346	Spain	346						346
399	Sweden	399						399
225	Switzerland	225						225
15	Syria		15					15
57	Turkey	57						57
775	United Kingdom	775						775
2000	U.S.A.				2000			2000
356	U.S.S.R.	356						356
217	Venezuela					217		217
97	Yugoslavia	97						97
179	Zimbabwe			179				179
54	National Societies	25	9	6	3	9	2	54
14122	Members	6909	1997	911	3098	764	373	14122

APPENDIX II

REPORT ON THE WORK OF THE STOCKHOLM CONFERENCE ADVISORY COMMITTEE

1. Following the Moscow Conference the Executive Committee has had a Sub-Committee whose task is to advise on the technical framework for the forthcoming conference. This is carried out, of course, in closest co-operation with the Host Organizing Committee who will be keen to set their individual stamp on the Conference: the Conference Advisory Committee possibly see it in a wider context and from their previous experience they can draw attention to anticipated difficulties.

2. The Xth Conference Advisory Committee had the following membership:

The President	(Chairman)	Prof. M. Fukuoka
Vice-President for the Region		
	(V-P, Europe)	Prof. B. Broms
Two members nominated		
by the Swedes		Prof. S. Hansbo
		Dr. U. Lindblom
Sec. General of last Conf.		Prof. A. Nakase
Secretary General	(Secretary)	Kevin Nash

In addition Prof. H.B. Seed, Chairman of the Organizing Committee for the 1985 (San Francisco) Conference attended some of the meetings of the Committee as an observer, as also did Mr. N. Flodin.

3. The Committee first met in Tokyo when a few general principles were discussed. They then met, informally, in Stockholm seven months later (in January 1978), and again in Goteborg in March, 1978. It is significant that the shape of the conference had been determined by the end of that meeting and when the Committee had its final meeting at Oaxaca a year later the business consisted largely of reporting on work done rather than initiating new things.

4. The idea of having Main Sessions and Specialty Sessions was introduced at Mexico City in 1969. These made it possible for specialists to meet together to discuss, for example, Negative Skin Friction, a subject for which a Main Session as then envisaged could hardly be justified. The programmes for that Conference and the two succeeding ones were as follows:

Conference	Main Sessions	No. of Specialty Sessions
Mexico City 1969	<ol style="list-style-type: none"> 1. Stress-deformation and strength characteristics 2. Foundations of buildings in clay 3. Earth and rockfill dams 4. Deep excavation and tunnelling in soft ground 5. Stability of natural slopes and embankment foundations 	18
Moscow 1973	<ol style="list-style-type: none"> 1. Strength and deformability of soils 2. Interaction of soil bases and structures 3. Deep foundations (including pile foundations) 4. Construction on soft clays and unstable soils 	8
Tokyo 1977	<ol style="list-style-type: none"> 1. Stress-deformation and strength characteristics 2. Behaviour of foundations and structures 3. Slopes and excavations 4. Soil dynamics 	12

The thinking here was that any worker in soil mechanics should be able to present his findings in one or another of the Main Sessions. A very brief summary of the papers submitted to the Specialty Sessions was published in the final volume of the Proceedings: some of the more enterprising of the organizers privately published a fuller version following the Mexico and the Tokyo Conferences, but this proved to be a rather untidy arrangement.

5. The Stockholm Organizing Committee suggested combining the Main and Specialty Sessions into twelve main sessions to be run three at a time. The Conference Advisory Committee spent much time examining the principles behind this and concluded that it should be tried for this occasion. One of the great advantages was that no subsidiary publications for Specialty Sessions would be required. On the other hand, the Proceedings expanded into 500 papers (compared with 240 papers at Tokyo) and it was feared that there could be a drop in quality.

6. Following the first meeting of the Committee in Stockholm, National Societies were asked to suggest the names of their members who were particularly interested in one or another of the twelve topics and who might serve as Chairman or Reporter for the Session. These names (and others) were considered when the Committee again met three months later and much time was spent in allocating these responsibilities to the various eligible people the world over, taking care to ensure that no National Society was over-represented in terms of their contribution to the International Society. The result, of

course, can never be perfect but the attempt was made. It is desirable that on occasions such as this that National Societies should answer letters promptly.

12. The Swedish Organizing Committee reported two difficulties over their contacts with National Societies

- (i) many National Societies did not review their papers before sending them off to Conference Organizing Committee as requested. The purpose of this is to maintain a high quality of publication and the correct procedure should be followed.
- (ii) The Organizing Committee urgently needed the help which could best be given from within a National Society (e.g. over the distribution of the Bulletins or in the preparation of a Summary or a Paper) and would very much like suggestions as to how in future such things could be improved.

7. The allocation of pages followed faithfully the principles laid down at the Tokyo meeting, that is to say, the bulk of the pages (86%) were divided between the National Societies according to their financial contribution to the ISSMFE for the years 1976-79 inclusive. The remainder were allocated by the President (10%) and by the Host Country (4%).

However, from the experience at previous conferences it was known that although three volumes each with 800 pages might be the target, if 2400 pages were to be allocated to the various National Societies, rather less than that would eventually be submitted. It was therefore decided to over-allocate the number of pages in the belief (and hope) that this would happen, and in the end this worked rather well. The three volumes contain 2454 pages.

8. Obtaining the right numerical balance of papers between the various sessions was expected to be a difficulty. But again, in the end they turned out to be remarkably good.

9. The specification for the preparation of papers for the Proceedings was laid down by the ISSMFE and it is hoped that the sizes of the sheets and the general layout can be adopted for all ISSMFE/ISRM/IAEG Conferences in future, although with changing technology this specification may have to be revised within a few years.

10. In addition to the meetings mentioned, the Secretary General was in close touch with the Swedish Committee (and in particular Dr. Lindblom) by means of regular visits of one side or the other to Sweden or Britain. In the months leading up to the Conference there have been long and regular telephone calls and a very satisfactory working relationship has been created. It is believed that the considerable amount of time given to the detailed planning should be evident when it comes to the Conference.

11. The Organizing Committee has kept closely to the schedule of events leading up to the Conference which was laid down at the very beginning. Thus the various Bulletins have appeared and the Proceedings have been printed exactly as planned. For all this the Organizing Committee is to be warmly congratulated.

J.K.T.L.N.
March 1981

APPENDIX III

REPORT OF THE VICE-PRESIDENT FOR AFRICA, 1977-1981

The period under review has been one of consolidation of the International Society's activities in Africa. While the advances made in activity and membership may not be spectacular they are nevertheless significant in not only maintaining the Society's presence but in particular in improving participation in its activities and in increasing communication between members. In view of the real and potential difficulties which have existed this is seen to count as a successful period well justifying the efforts of numerous members in Africa and the constant support received from the President, Professor M. Fukuoka and the Secretary General, Professor Nash.

MEMBERSHIP

At the time of reporting the position of Morocco was still unclear. It is sincerely hoped that they will remain in membership and provided they do so the membership position will be one of steady growth in most societies. The South African National Society remains the largest and most active with a little above five hundred members. They are followed by Zimbabwe whose membership has regrettably dropped from almost two hundred and fifty to below two hundred. However, this has begun to improve once more and activity in the Geotechnical field should promote new interest shortly. The most encouraging event was the return to membership of Egypt early in 1980. Their return to the International Society with an initial membership of sixty was most heartening. The growth of National Societies in Ghana and Nigeria was extremely satisfactory with their membership virtually doubling during the period and currently standing at 55 and 52 respectively. Sadly Tunisian membership ceased during the period. The Vice President made enquiries with regard to the potential membership of Zambia, Malawi and Kenya while on visits to those countries during 1980. Keen interest was expressed in membership by individuals from Tanzania and Mocambique during the 7th Regional Conference and it was suggested that an East African Society on the lines of the South East Asia Society might be the best means of promoting this area's interests. Total membership is a constantly changing statistic but provided Morocco remains in membership this should currently approximate to 950 including a notional 100 members in that country.

THE 7th REGIONAL CONFERENCE FOR AFRICA

Undoubtedly the Regional Conference takes pride of place in any period between International Conferences. The Ghanaian National Society were the hosts on this occasion in Accra in June, 1980. A highly successful conference, of which they can be justifiably proud, resulted. This was the first conference north of the equator in Africa and while the number of delegates was small, between 80 and 90, the nationalities of the delegates attending was widespread and cosmopolitan (nationals of 21 countries were present). The opportunities for personal contact, discussion and fellowship were thus varied, stimulating and effective. The presence of the President and the Secretary General greatly enhanced the proceedings and fully justified the continuation of this most desirable feature of the 1980/81 Regional Conferences.

The African region is particularly grateful to the Japanese Society for making Professor Fukuoka's visit possible. While it is hoped that the funding of Regional Conferences in the future will underwrite such travel expenses, air fares do constitute a significant proportion of the costs of such a

conference, and it is hoped that a flexible attitude will be adopted so that the smaller societies will not be deterred from offering to act as hosts in the future. Particular mention must be made of the generous attitude adopted by the South African authors of the 21 papers emanating from that country to a conference which they knew that they would probably not be permitted to attend. In the event there were three members of the South African Geotechnical Division present; and additionally a follow up conference in Pretoria in November was based on the proceedings of the Ghana Conference. This was attended by some one hundred and thirty delegates and between them, these two conferences resulted in many more members in toto attending a conference than has ever previously been the case in the African region.

AWARDS AND SPECIAL DISTINCTIONS TO MEMBERS

The Society will note with great pleasure the distinction accorded to Dr. J.W.S. de Graft Johnson, who was Vice President for Africa of the ISSMFE for 1973-77, on his appointment as the Vice President of the Republic of Ghana during 1979. He opened the Accra Conference and was host to the delegates on a number of occasions. There is no doubt that the success of the Conference in Accra was due in no small measure to his support for the meeting.

In 1978 the South African National Society instituted the J.E. Jennings Award for outstanding contributions to Geotechnology. The first of these awards was made to Dr. F. Netterburg in recognition of his publications relating to calcretes.

In 1980 the Building Research Award was established in South Africa. The first recipient was Dr. A.A.B. Williams in recognition of his contributions in research on stiff fissured clays and the related cracking of buildings on swelling and shrinking soils.

OBITUARY

Professor J.E.B. Jennings passed away during 1979. As a former Vice President for Africa he was well known and widely respected and regarded by all as the doyen of the profession in Africa. He is sadly missed.

ACTIVITIES IN THE MEMBER COUNTRIES OF THE REGION

Egypt

Egypt contributed a paper to the Regional Conference, but unfortunately no members could attend. They report that their society is still in the formative stage. Their contributions and involvement in the future will be keenly anticipated.

Ghana

A National Conference was held in Ghana early in 1980 prior to the Regional Conference. This was followed by a technical session dealing with geotechnical problems in the mining industry and on the design and construction of roads and dams. Ghana contributed nine papers to the Regional Conference.

Morocco

Morocco contributed two papers to the Regional Conference but no delegates were present, a factor which is particularly regretted since communications with Morocco have been difficult. While still technically out of membership for nonpayment of dues, the Secretary General has received payments for two years of arrears recently and it is sincerely hoped that these

difficulties will be resolved prior to the Stockholm Executive Meeting.

Nigeria

The Nigerian Society meets on a quarterly basis at the University of Lagos. These meetings, at which a paper is usually presented, have been well attended and have produced stimulating and informative discussions. The Nigerians set up a technical sub-committee to prepare a draft Code of Practice on soil testing. There will be a Nigerian National Geotechnical Conference held during 1982; the theme is to be "Nigerian Soils in Engineering Practice."

The Nigerian delegation to the Regional Conference in Accra was the largest from outside Ghana. They contributed 10 papers and were prominent in participation at the Conference, both as session officials and as contributors to the discussion.

South Africa

A regular series of symposia and workshop courses have been held in South Africa during the period. Amongst these were:

"Ground improvement by geotechnical processes"
Durban, November, 1977

"In situ testing in boreholes"
Pretoria, March 1978.

"Soil structure interaction"
Durban, May 1978

"The Bafokeng slimes dam disaster"
Johannesburg, August 1978

"Geology & Engineering"
Pretoria, May 1979

"Dispersive Clay Symposium"
Johannesburg, September 1979

"Symposium on Settlements"
Stellenbosch, August 1979

"Rock fill & Gabions in Civil Engineering"
Johannesburg, December 1980

Work has continued on the Codes of Practice:

- (1) For men working in large diameter boreholes.
- (2) Lateral support of surface excavations.

The Vice President was honoured to be asked to make a lecture tour of South Africa in 1978 where he presented a paper "Geotechnology - A Rhodesian Review" in Johannesburg, Durban and Cape Town. In 1979 he was similarly hosted at the Geology & Engineering Symposium and in 1980 he was invited to officiate at the South African Geotechnical Conference. This enabled him to keep in close touch with many members and was much appreciated.

Zimbabwe

Due to the war situation which pertained in the years 1977-1980, membership reduced significantly and activity also suffered. Nevertheless, the Division has maintained a reasonable level of activity, meeting bi-monthly whenever possible. Three papers were submitted to the Regional Conference in Accra and a number of members participated in the Pretoria Conference. Papers were published in the Zimbabwe

Engineer and in journals of other institutions.

With the return to more normal times the Zimbabwe Society is determined to reactivate itself and to this end has issued an invitation to act as host for the 8th African Regional Conference in September 1983. An informal meeting in Accra in June 1980 gave unanimous support to this proposal.

PUBLICATIONS

The proceedings of the 7th African Regional Conference and also those of the 4th and 6th conferences are available from Messrs. A.A. Balkema, P.O. Box 1675, NL.3000 B.R., Rotterdam, Netherlands.

It is hoped that Vol.II of the 7th Conference will include proceedings of the South African follow up conference and this will represent a very satisfactory outcome in view of the difficult circumstances mitigating against technical co-operation in the region which it is most heartening to see overcome by dedication of members to their Society and love of their subject.

In May 1979 Dr. A.B.A. Brinks book "Engineering Geology of Southern Africa," Vol.I was launched with the support of the South African Division. This should prove a most valuable guide to practitioners in the area and the companion Vol.II should become available shortly.

These books are published by Building Publications, P.O. Box 229, Silverton 0127, South Africa, from whom they may be ordered.

Ronald Mackechnie

APPENDIX IV

REPORT OF THE VICE PRESIDENT FOR ASIA, 1977 - 1981

GENERAL

Asia belongs to the developing world having 60% of the total world population. Its vast human resource and large number of Geotechnical Engineering projects offer an ideal setting for the growth of Soil Mechanics. Of the 53 National Societies affiliated to the International Society (ISSMF), nine belong to Asia (Fig. 1). These are from China, India, Indonesia, Iran, Israel, Japan, Pakistan, South East Asia and Syria. The official figure for the international membership of the Asian region is 1368 (Fig. 2) while reports received from the National Societies suggest a membership of 1547.

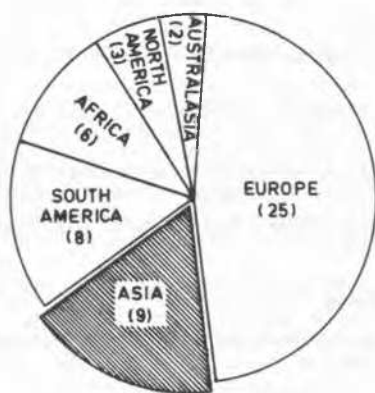


Fig. 1 Country-wise Representation at ISSMF

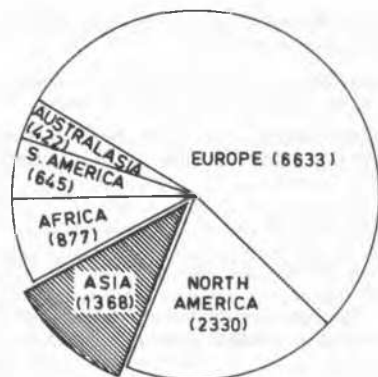


Fig. 2 Membership-wise Representation at ISSMF

The numbers are admittedly disappointing and I would support my predecessor's view that a more favourable dues-structure of the International Society may help in correcting the situation. The membership would also improve if steps are taken to develop better interaction at the regional and international levels. The region being handicapped by its limited financial resources, finds it difficult to send delegates to the various International Conferences (Fig. 3). The participation had risen to more than 50% for the IXth Conference at Tokyo because it was hosted by an Asian country. Taking cue from this, the International Society should support the idea of preferring invitations from the developing countries. The participation could, further improve if subsidies and travel grants to developing countries are also provided for in the conference budget.

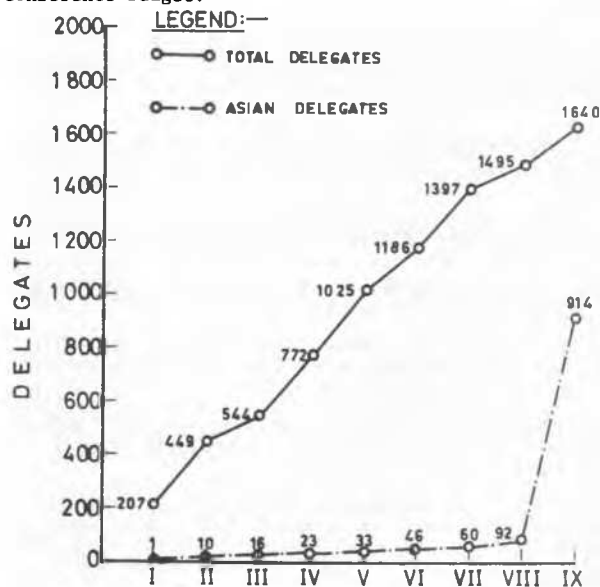


Fig. 3 Asian Participation at International Conferences

The papers contributed for the International Conference from the Asian region have been limited (Fig. 4) because allocations are based on the strength of international membership of the constituent National Society. A special quota may therefore be reserved for good papers from the developing countries which may, otherwise not sail-in due to limitations of quota.

INTRODUCTION

This condensed report is based on the replies received

from the seven of the nine National Societies plus the information drawn from my own file of correspondence with the National Societies of the region during my tenure as the Vice President. In undertaking a task of this kind, errors and omissions are not unlikely. These are, totally unintentional and primarily because of the communications gap.

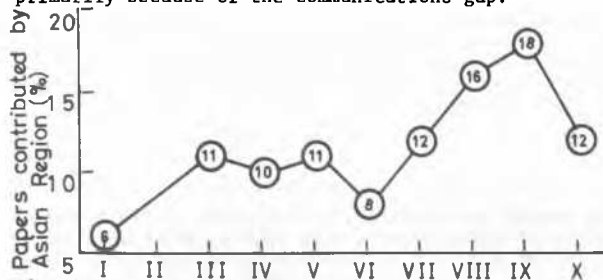


Fig. 4 Papers from Asia Contributed to the International Conferences

The report presents an account of the conferences, symposia and lectures held and publications released during the period under report.

The links between various regions and the international society have grown because of the initiations of various sub committees by the latter. The details of Asian participation on these sub committees are furnished.

SYMPOSIA AND CONFERENCES

CHINA

*Third National Conference on Soil Mechanics and Foundation Engineering; Hangzhou city; 11-16 Dec 79; Participants: 209, papers: 306 (Proc. under publication).

*A Symposium on Dynamic Properties and Testing Technology of Soils; Herfeir Anhui; 6-11 Dec 80.

INDIA

*First National Symposium on Expansive Soils; Kanpur; Dec 77; Proc Vol 1&2.

*Geocon-India, Conference on Geotechnical Engineering; New Delhi; Dec 78; Proc. Vol 1&2.

*International Symposium on In-situ Testing of Soils and Rocks and Performance of Structure; Roorkee; 19-22 Dec 79; Proc. Vol 1&2.

*Proceedings of Geotech-80, Conference on Geotechnical Engineering; Bombay; Dec 80; Proc. Vol 1&2. Vol. 3 under publication.

*International Symposium on Landslides, New Delhi; April 80. Proc. Vol 1&2 released. Vol 3 under publication.

INDONESIA

*First Indonesia Geotechnical Conference, Bandung; 10-12 Dec 79; Participants:320; Papers:20.

*Seminar on Geotechnical Engineering in Practice, Bandung; 29 March 80; Participants:300;Papers:10.

*Seminar on Geotechnical Engineering in Practice, Jakarta; 31 March 80.

*Symposium on Recent Development in Foundation and Structural Engineering, Bandung; June 80; Participants:100.

*Symposium on Recent Development in Foundation and Structural Engineering, Jakarata; June 80; Participants:600.

ISRAEL

*Earthworks, Excavations & Foundation Construction in Built up areas, 1978.

*The Israeli Foundation Code; 1979.

*Geotechnical Problems of the Israeli Negev Desert;1980

*Biweekly seminars on Geotechnical subjects have been held by the geotechnical engineering group of the Israel Institute of Technology.

JAPAN

*The fifteenth National Conference on SM&FE, Hiroshima; 9-12 June 80; Participants:1008; Papers:455.

*Sixteenth National Conference on SM&FE, Kanazawa city; 26-29 May 81.

*The Vane Shear Symposium, Osaka; 15 Oct 80; Participants:70.

*Soil Stabilization Test Symposium, Osaka; 15 Oct 80; Participants:170.

*Twentyfifth Symposium on SM&FE (Design & Construction of ground Anchors), Tokyo; 11 Nov 80; Participants:140; Papers:11.

*The Soil Sounding Symposium, Tokyo; 12 Nov 80; Participants:140.

SOUTH EAST ASIA

*Geotechnical Engineering Practice in Bangkok, Bangkok; 20-21 July 79.

*Sixth Asian Regional Conference on SM&FE, Singapore; July 79.

*Geotechnical Aspects of Highway Engineering, Bangkok; Dec 79.

*An International Conference on Engineering for Protection from Natural Disasters, Bangkok; January 80.

*Sixth Southeast Asian Conference on Soil Engineering, Taipei; May 80.

*Seminar on Natural Resources and Their Development, Bangkok; July 80.

*Symposium on Problems and Practice of Dam Engineering, Bangkok; Dec 80.

ANNUAL LECTURES

INDIA

IGS Annual Lecture

1978; Prof R.K. Katti: Search for Solutions to Problems in Black Cotton Soils.

1979; Mr. Y.K. Murthy: Some Challenging Geotechnical Problems in River Valley Projects in India.

1980; Prof Dinesh Mohan : A Close Look at the Problems of Research and Its Application to Pile Foundations.

ISRAEL

Kassiff Annual Lecture

1977; Prof G. Wiseman: Design Methods for Steel Sheet Piles.

1978; Dr. S. Frydman: Geotechnical Aspects of the Feasibility Study of a Nuclear Power Station Site in Israel.

1979; Prof E. Sijklarsky: Dynamic Compaction of Asphaltic Materials.

1980; Prof J. Bear: Ground Settlements as a result of Pumping from Aquifers - An Area Approach.

OTHER HIGHLIGHTS

CHINA (President Mr Huang Wen-Xi; Secretary: Mr Zhou, Jing; International Membership:100)

The Chinese National Society sent delegates to the following International conferences and meetings:

1. International Symposium on Soil Mechanics in Perspective in Oaxaca, Mexico, March 3-8, 1979.
2. ISSMFE Executive Committee Meeting in Oaxaca, Mexico, March 9-10, 1979.
3. International Conference on Recent Development in the Design and Construction of Piles in London, England, March 21-22, 1979.
4. 7th European Regional Conference on SMFE, Brighton, England, Sept. 10-13, 1979.
5. International Symposium on Soils Under Cyclic and Transient Loading Swansea, UK, Jan 7-11, 1980.

The China Civil Engineering Society invited an American delegation on Soil Dynamics headed by Professor Marshall (28th Aug to 10th Sept 1979). An American Geotechnical Testing and Instrumentation delegation headed by Professor Silver visited China from 28th March to 13th April 1980.

Yet another highlight was the visit of Professor & Mrs Masami Fukuoka and Professor Nash as guests of the Chinese National Society during Aug 1980.

INDIA (President:Dr. Jagdish Narain; Secretary: Mr V.M. Sharma; International Membership: 259.

Indian Geotechnical Society is one of the most active societies in the Asian region. During my tenure as Vice President of the region, the IGS established two study groups, one on Soil Sampling and the other on Geotechnical Instrumentation, both under the convenorship of Dr. R.K. Bhandari. The study group on Soil Sampling has provided a useful link with the sampling sub committee of the International Society.

The IGS exchanges publications, journals and newsletters with the National Societies of Japan, China, Iran, Israel, Pakistan, SE Asia, Syria and Indonesia. There are a large number of awards which are given annually to the best papers in the fields of Rock Mechanics; Soil Dynamics and Vibration problems in Foundation Engineering; Instrumentation; Contribution on Bentonite in Soil Stabilization, Structural Foundations etc. The IGS also awards, every year, a Gold Medal for the best paper published through the Society.

INDONESIA (President:Mr. A. Aziz Jayaputra; Secretary: International Membership: 58)

The Indonesian Geotechnical Engineers Association (IGEA) has been quite active. It organised the first Indonesia Geotechnical Conference in Bandung in Dec 1979. A special guest lecture was delivered by Dr. H.H.S. Begemann of Delft Soil Mechanics Laboratory, Holland. Another seminar on Geotechnical Engineering was held in Bandung during March 1980 where principal speakers were Professor Fukuoka, Mr Mori, Mr Ohya, Professor Balasubramaniam. The Symposium on Recent Development in Foundation and Structural Engineering held in June 1980 was also well attended. The chief speakers were: Dr. Fukuda of Japan, Dr. Wiratman and Dr. Widiadnyana and Mr. Aziz Jayaputra of Indonesia.

ISRAEL (President: Prof Joseph G. Zeitlen; Secretary: Dr. S. Frydman International Membership: 119)

The Israel National Society has been very active as reflected by the large number of symposia and seminars and annual lectures conducted by the Society. The members from Israel are also active on the International sub committees for co-ordination of research and laboratory and field testing.

Israel would host the 7th Asian Regional Conference in 1983.

JAPAN (President: Professor Gosaburo Miki; Secretary: Dr. Tsutomu Kimura)

The Japanese National Society has the membership of 13,047 individual members, 473 student members and 1,094 collective members. 737 individual and 39 collective members are reported to be the members of the Japan National Committee of the International Society. Japan was the proud host to the IXth International Conference held in Tokyo in July 1977. Soon after the conference, Japan hosted 2nd International Seminar on Landslides. The case history volume for the IX ICSMFE is currently being edited and will be published in Feb 1981. The Japan National Society has study groups on Rock Mechanics, In-situ Vane Test, Ocean Floor Problems, Damages of Foundations by Earthquake, Probabilistic Design of Foundations and etc. It also has standardization committees on Lateral Loading Tests on Piles, Plate Bearing Tests, Soil Testing for Organic Soils and etc.

SOUTH EAST ASIA (President: Prof E.W. Brand; Secretary: Prof A.S. Balasubramaniam; (International Membership:220)

The Society will hold the Seventh Southeast Asian Conference on Soil Engineering in Hong Kong in late 1982. The Society broadened its activities by forming two additional Regional Groups, one on Engineering Geology and the other on Rock Mechanics and Mining Engineering. These Groups are affiliated with the International Association of Engineering Geology and also the International Society for Rock Mechanics.

Professor Chin Fung Kee, a past President of the Society is the Vice President elect of ISSMFE for Asia. Dr. Tan Swan Beng, the immediate past President of the Society was the Chairman of the Organizing Committee of the Sixth Asian Regional Conference held in Singapore during 1979.

SYRIA (President: Mr. K. Kayyal; Secretary: Mr. F. Mawlawi; International Membership: 13)

The Syrian National Society was established in 1975. It began its activity by focusing attention on the Soil Investigation for economic designs. It succeeded (through the media of their Government) in making it mandatory for construction bodies to produce a soil report before undertaking construction of buildings taller than four storeys. The local engineers syndicate has provided generous help to the society.

Publications Available from Asian Region

Title of Publication	Year	Place	Language	Publishers	Price
Proceedings, VI Asian Regional Conference on SMFE (two vols)	1979	Singapore	English	Joppan Printing Co (S) P.Ltd Singapore	\$ 200
Indian Geotechnical Journal	Qtly	India	English	Indian Geotechnical Society C/O The Institution of Engrs (I) Bahadur Shah Zafar Marg, New Delhi, India	\$ 30 by Air Mail (Annual)
Soils & Foundations	Qtly	Japan	English	Japanese Society of SMFE Sugayama Building 4F, Kanda Awaji-cho, 2-23 Chiyoda-ku, Tokyo 101, Japan.	\$ (Annual) By Surface Mail
Journal of Japanese Society of SMFE	Qtly	Japan	English & Japanese		
Tsuchi to Kiso	Monthly	Japan	Japanese		
Proceedings Sixth SE Asian Conference on Soil Engineering	1980	Taiwan	English	Secretary General, Organising Committee, 6th SE ACSE C/O Moh & Associates, 6-1 Lane 137, Tenchi Street, Taipei, Taiwan 105.	
Geotechnical Engineering Journal of SE Asian Society of Soil Engineering	Half Yearly	Bangkok Thailand	English		
Chinese Journal of Geotechnical Engineering	Qtly	China			

MEMBERS FROM ASIAN REGION ON THE SUB-COMMITTEES OF ISSMFE

1981 Conference Advisory Sub Committee

Professor M. Fukuoka	(Japan)	Chairman
Professor A. Nakase	(Japan)	Member

Sub Committee for Proposing Format for List of Members

Dr. Z.C. Moh	(SE Asia)	Chairman
Dr. S. Ohya	(Japan)	Member

Information Advisory Sub Committee

Professor H. Kishida	(Japan)	Member
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Budget & Finance Committee

Mr F. Mawlawi	(Syria)	Member
Dr. Tan Swan Beng	(SE Asia)	Member

Geomechanical Computer Programs Sub Committee

Dr. A.S. Balasubramaniam	(SE Asia)	Member
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Site Investigation Sub Committee

Mr S.Ohya	(Japan)	Member
Mr M. Ayhamitoutongi	(Syria)	Member
Dr E.W. Brand	(SE Asia)	Member
Dr Z.C. Moh	(SE Asia)	Member
Dr. G. Ranjan	(India)	Member

Soil Sampling Sub Committee

Mr H. Mori	(Japan)	Chairman
Dr K. Adachi	(Japan)	Secretary
Dr R.K. Bhandari	(India)	Member
Dr R.P. Brenner	(SE Asia)	Member
Mr K.R. Datye	(India)	Advisor
Dr Z.C. Moh	(SE Asia)	Advisor
Dr T. Okumura	(Japan)	Advisor

Sub Committee for Co-ordination of Research

Professor J.G. Zeitlen	(Israel)	Member
Sub Committee for Soil Testing		
Professor G. Miki	(Japan)	Member

Sub Committee for Landslide

Dr. H. Fujita	(Japan)	Member
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Sub Committee for Research Cooperation

Mr. H. Mori	(Japan)	Member
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Sub Committee for Laboratory and Field Testing

Dr. S. Frydman	(Israel)	Member
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CONCLUDING REMARKS

I had convened a meeting of the Presidents of the National Societies of the Asian Region during the 6th Asian Regional Conference held on 27th July, 1979 at Singapore. During this meeting, I highlighted the importance of exchange of visits, publications, journals, newsletters between different National Societies of the region. I also suggested that the National Societies should exchange information on their National Conferences and related subjects. Another suggestion made by me was that National Societies could usefully compile information about the areas of research of special interest to each country, and exchange it periodically with their counterparts in the region. The response seems to be encouraging.

Finally, I would suggest that the important records generated during the tenure of a Vice President may be handed over to his successor for continuity of action. I have taken steps to do so this time.

(DINESH MOHAN)

APPENDIX V

REPORT OF THE VICE-PRESIDENT FOR AUSTRALASIA

1977 - 1981

The Australasian Region, ISSMFE, continues to comprise Australia and New Zealand only. Efforts during the period to encourage the establishment of National Societies in other countries of the Australasian and Pacific area have not been successful due to the small populations involved and the lack of continuing geo-technical activity other than by visiting practitioners. Even so Papua New Guinea may eventually provide a further outpost for the Society.

While always fostering the interests of ISSMFE the Australian Geomechanics Society (AGS) and the New Zealand Geomechanics Society (NZGS) are also the National Societies of other international bodies. The arrangement is well suited to the regional population distributions and, having a number of other advantages, has proved particularly successful in the Australasian Region.

Geotechnical conditions in the two countries are, for the most part, governed by very different geologies, climates and land forms. This has not prevented them from taking a close interest in each other's activities or from exercising full co-operation in all relevant matters. The many factors which they have in common, including their affiliations with the international societies, considerably outweigh those that are different. Unhappily this is not so everywhere.

Membership

At the close of 1980 the membership of AGS stood at 365. Of these 203 were affiliates of ISSMFE - a steady increase from 168 at the time of IX CSSMFE, Tokyo.

The affiliation with ISSMFE within NZGS is the stronger of the two countries. Out of a total membership of 270 in 1980 it had 210 ISSMFE affiliates. This compares with 232 in 1977.

Regional Activities

The 3rd Australia-New Zealand Geomechanics Conference was the highlight of the regional activities for the period. Held in Wellington, 12-16 May 1980, and hosted by NZGS, this was attended by 171 registrants. These included many from Australia and other countries and, like its seven predecessors (if one disregards the change of name after 5 ANZCSSMFE), this conference was in many ways a miniature international congress.

The most distinguished guest was the ISSMFE President, Prof. Masami Fukuoka. He took a lively part in all activities, both technical and social, and contributed enormously to the success of the conference.

Prof. Tor Brekke of the University of California was the keynote speaker. His subject title was "Stop the

Computer, I want to get off". A forum session on the recent Abbotsford landslip disaster was also of very great interest and value. Further lectures on this subject are being given in several New Zealand cities and a speaker on the same subject is being invited to visit Australia.

The proceedings of this enjoyable and well organised conference have been published in three volumes.

In the course of this conference a joint meeting was held between the Australian and New Zealand Societies. President Fukuoka attended. A number of matters of common interest were discussed and the "Procedure for Co-operation" between them was slightly amended. It was decided that the 4th ANZ Geomechanics Conference would be held in Perth, Western Australia, probably in May 1984.

Awards

At the 3rd ANZGC the work of two especially distinguished contributors to Australasian geomechanics was publicly acclaimed.

In New Zealand the principal means for such recognition is the N.Z. Geomechanics Lecture. The 3rd such Lecture had previously been delivered by the recipient of the honour, Dr R D Northey, in all major cities of New Zealand, and was repeated, in modified form, at the Conference. His subject was "The Acceptability of Geotechnical Risk".

In Australia the highest honour is the Australian Geomechanics Award, consisting of the John Jaeger Memorial Medal. The inaugural award was made at the Conference to Prof. E H Davis. His address was entitled "Some Plasticity Solutions Relative to the Bearing Capacity of Rock and Fissured Clay".

Activities in New Zealand

The NZGS is currently chaired by Dr I M Parton. The Management Committee meets regularly, usually in Wellington, while the general technical activities are held in Auckland, Wellington and Christchurch, and occasionally in other centres. These consist of a full range of meetings, seminars, symposia, technical visits etc, sometimes with visiting lecturers, as when Prof. G G Meyerhof of Nova Scotia gave a series of lectures in several cities early in the period. More recently Dr J L Sherard of Bermuda gave an address on embankment dam engineering in Wellington, while Prof. Yamanouchi gave an address in Christchurch on pumice soils.

Geomechanics sessions are also held in association with the conferences of the NZ Inst. of Engineers and embrace a wide field of engineering.

Activities in Australia

The AGS is currently chaired by Mr P C Hollingsworth. The committee usually meets in Melbourne, although the venue is sometimes Canberra or Sydney. State Groups meet for their technical activities in Newcastle, Brisbane, Adelaide, Perth, Hobart, Melbourne and Sydney. These activities cover a complete range, mostly on a monthly basis, and include extension courses in some states. Visiting lecturers have included Prof. B Broms of Sweden, Prof. E J Yoder of Indiana, Prof. J Mitchell of California and Prof. B Ladanyi of Canada. Profs. P Lumb and M Harr, together with Dr E D'Appolonia, made considerable contributions to a Residential Workshop on "The Application of Probabilistic Methods in Geotechnical Engineering", held near Sydney in September 1980.

The Society is involved in a number of national enquiries and surveys including a Task Force on National Disasters, a Working Party on Offshore Codes of Practice, a Working Party on Energy, the Australian Geomechanics Computer Users Committee, which publishes a regular newsletter, and etc.

One activity which started as a local symposium evolved into the highly successful International Conference on Structural Foundations on Rock, Sydney, May 1980. Significant contributions were made by overseas specialists, including Prof. Ladanyi.

Publications

The well established NZ Geomechanics News continues to serve the country admirably. Following the demise of the Australian Geomechanics Journal, for financial and other reasons, Australians followed the lead of NZGS in producing the Australian Geomechanics News. The first issue, December 1988, promises well. Both of these publications carry technical papers in addition to news items, reports, and etc.

The NZ Geomechanics News always contains a list of publications, mainly proceedings of conferences and symposia, available from the Secretary, NZIE, PO Box 12-241, Wellington North. Very recently the 3rd edition of a very useful booklet, "Stability of House Sites and Foundations - Advice to Prospective House and Section Owners", has been published (\$NZ 0.50).

Similarly AGS has conference proceedings and other publications available through the Australian Geomechanics Society, c/- I.E. Aust., 11 National Circuit, Barton, ACT, Australia, 2600.

Conclusion

The arrangement adopted by Australia and New Zealand in which one comprehensive society in each country represents the three international geotechnical organisations, ISSMFE, ISRM and IAEG, has continued to function smoothly and efficiently in the Australasian Region for the period 1977-1981. All important matters relating each National Society to a parent International Society continue to be channelled through, and under the control of, the appropriate Regional Vice President. For the ISSMFE and its Australasian Region this has operated particularly well for the period under review. At the same time within and between the New Zealand and Australian Geomechanics Societies the thorough mixing of interdisciplinary blood has widened the perspectives of all members, a most important benefit in this age of increasingly narrow specialisation.

A. D. Hosking

APPENDIX VI

REPORT OF THE VICE-PRESIDENT FOR EUROPE 1977-1981

It is a great honour for me to present to the Executive Committee the report on the activities of the national societies in Europe during the last four years since the Tokyo Conference in 1977. This report is based on the replies to an inquiry sent to the different societies. It has not been possible to include those countries from which there have been no reply.

Europe with 25 member countries and almost half of the total membership of the Society is by far the largest of the five regions. The activities of the different national societies have increased considerably during the last four years. Conferences have been held on offshore and earthquake engineering, behaviour of piles, stability of slopes, statistical and numerical methods just to mention a few areas.

There is a growing interest in Europe in field measurements and field instrumentation. At the Seventh European Conference on Soil Mechanics and Foundation Engineering which was held in Brighton, England, 10-14 September, 1979, where the measurement, selection and use of design parameters in geotechnical engineering were discussed was therefore very timely. More than 750 attended. At the conference there was also an exhibition "Soilmex 79" which was of considerable interest to the participants.

Considerable progress has been made in Europe since 1977 with respect to soil stabilization. Examples are soil reinforcement using steel strips or fabric, lime and stone columns, dynamic consolidation and new drain types as an alternative to sand drains. This topic will be discussed at the next European regional conference which will be held in Helsinki, Finland, in 1983. At this conference there is one session on soil improvement.

The main activities in Austria has been the presentation of papers, reports and articles at different international and national meetings.

In Belgium a symposium on the pressuremeter test was held in June 1978. The symposium was organized by the Belgian Association of the International Society of Soil Mechanics and Foundation Engineering in collaboration with the Royal Military Academy of Belgium. A series of lectures have been presented by prominent scientists covering a very wide field. Also several field trips have been arranged.

The British Geotechnical Society has arranged a large number of meetings and discussions during the past four years. The main effort of the society has been the organization of the

Seventh European Conference which was held in Brighton. The Society has also organized four annual Rankine lectures:

- 1978 W.H. Ward, Ground Support for Tunnels in Weak Rock
- 1979 H.B. Seed, Earthquake - Resistant Design of Earth and Rockfill Dams
- 1980 A.N. Schofield, Cambridge Geotechnical Centrifuge Operations
- 1981 N.R. Morgenstern, Geotechnical Engineering and Frontier Resource Development

The society also arranges a yearly competition, the Cooling Prize, for contestants under the age of 27.

The Bulgarian National Society organized in September 1980 the 6th Danube European Conference with 306 participants from most of the countries in Europe. At this conference foundations on soft soils were discussed. The Society has also organized nine seminars per year. A national conference on data processing from soil and geological investigations was held in 1980.

The Czechoslovak Committee for Soil Mechanics and Foundation Engineering organized the 5th Danube Conference on Soil Mechanics and Foundation Engineering which was held in Bratislava, Czechoslovakia, in September 1977 with almost 300 participants. 88 papers and 36 discussions were presented.

Two national conferences are held every year on foundation engineering with 200 to 400 participants covering a very broad area. In addition a large number of seminars have been organized on soil-structure interaction, bracing of deep excavation, foundation of steel structures, anchoring and excavators. Seminars (every two weeks) have also been arranged at the Institute of Theoretical and Applied Mechanics on e.g. creep of sand, behaviour of earth dams, large diameter piles, soil improvement, pile load tests. Geotechnical articles are regularly published in the two journals "Inženýrské stavby" and "Stavebnícky časopis". Several geotechnical text books have been published since 1977.

Several geotechnical meetings (5 to 6 per year in Copenhagen and one outside of Copenhagen) and field trips have been organized by the Danish Geotechnical Society. The Society has also organized a special course on "Critical State Soil Mechanics" with Prof. P. Wroth and Dr D. Wood as lecturers. A new Code of Practice for Foundation Engineering has been translated into English and was published in 1977.

Several meetings with lectures from abroad covering settlements and restoration of buildings have been arranged by the Finnish Society of Soil Mechanics and Foundation Engineering. In 1979 the Finnish Society was the host of the Nordic Geotechnical Meeting which is held every four years. About 300 attended the meeting. A Finnish dictionary of common soils mechanics and foundation engineering terms has been prepared. Reports with recommendations for site investigations for rock structures planning and construction of cast-in-place piles foundation with driven piles have been published. Also a report on computer usage and computer programs is available. The next European Regional Conference will be held in Helsinki, Finland, in 1983, as mentioned previously.

The Comité Français de la Mécanique des Sols et de Fondations with 849 members is one of the largest of the national societies. It has started a new geotechnical publication "Revue Française de Géotechnique" with excellent articles in French by both French and foreign authors. The society should be congratulated for this initiative. Nine to ten meetings are held every year with speakers from France and abroad covering a very wide field. Several international conferences have been organized on e.g. the use of textiles in geotechnical engineering (1977), reinforced earth (1979), rheology and soil mechanics (1980). The society is represented in a large number of committees of ISSMFE.

In the Federal Republic of Germany (FRG) the Deutsche Gesellschaft für Erd- und Grundbau, which is the second largest of the national societies in Europe with 1003 members, has organized national conferences on piles, rock mechanics, foundation engineering, engineering geology and large dams with a large number of participants. The papers presented at these conferences have been published. The society has also organized several special meetings in foundation engineering ("Deutsche Baugrundtagung"). The 3rd International Conference on Numerical Methods in Geomechanics was held in Aachen in April 1979 with a large number of participants from many parts of the world. There are at present 24 different committees in the society covering almost the whole geotechnical field. Research has been concentrated on stress-strain relationships for soils, rock mechanics, engineering geology and numerical methods. The Society is currently working on European Codes for foundations (Eurocode Number 7/Foundation and ISO/Foundation) and a translation of the FRD Codes (DIN) into English.

The Committee on Soil Mechanics and Foundation Engineering in the German Democratic Republic (GDR) has arranged several geotechnical meetings, conferences and exhibits on cast-in-place piles, tunnels, drilling problems and the reconstruction of the historical buildings. An international symposium on the prediction of settlements of structures was predicted in Dresden in December, 1980, where specialists from several countries took part. The proceedings from this symposium will be published in 1981.

The committee has also participated in the work of a number of building codes.

The Hellenic Society of Soil Mechanics and Foundation Engineering has been very active during the last four years and a large number of papers have been submitted to different international conferences by the members. A number of lectures have been given with speakers from Greece and abroad. Several conferences have been organized by different government agencies on such topics as piles, soil mechanics in road construction and laboratory methods.

The Geotechnical Society of Ireland has grown remarkably during the last four years and has today 72 members. Six meetings have been held every year with speakers from United Kingdom, USA and Ireland. In addition two seminars have been organized on both theoretical and practical aspects of geotechnical engineering.

The Italian National Society (Associazione Geotecnica Italiana) with 1059 members is the largest in Europe. The society is the editor of the quarterly journal "Revista Italiana di Geotecnica". Also an other periodical "Questioni di Geotecnica" is published by the Society. Several committees concerned with such problems as standards, pile foundations, laboratory testing, site investigations and penetration tests are very active. The national society is represented in several committees of ISSMFE. Several technical visits and meetings have been arranged. An international symposium, "Geotechnics of Structurally Complex Formations", was organized in 1977 in Capri with over 180 participants. More than 40 papers were presented.

The Society has organized several national meetings. At the 13th National Meeting in 1978, which was held in Merano, dams and foundations on soil and rock were discussed. In 1980 at the 14th National Meeting, the saving of old cities, ancient buildings and monuments was taken up.

The Netherlands Society for Soil Mechanics and Foundation Engineering with 285 members has grown very rapidly during the last four years. Ten meetings have been held each year covering a very wide field. Special courses have been organized for surveyors etc on the fundamentals of geotechnical engineering. An international symposium on penetration testing is planned for 1982 in Amsterdam.

The Norwegian Geotechnical Society has been very active and arranged a number of meetings covering a wide range of subjects. The main event has been The Laurits Bjerrum Memorial Lecture which is held every year. The following lectures have been given.

- | | | |
|------|------------|---|
| 1978 | O Tokheim | Strength and Deformation Characteristics of Soils |
| 1979 | E DiBiagio | The Seventh Sense of a Soils Engineer |
| 1980 | R B Peck | Where has All The Judgement Gone? |

Prizes from the Laurits Bjerrum Memorial Fund have been awarded to O Eide and B Kjaernsli of NGI. The society organizes every year a geotech-

nical day on various topics such as earth and rock fill dams and in-situ measurements (1977), road construction (1978), erosion (1979) and geodynamics (1980). Several subcommittees have been appointed. Manuals have been prepared covering the use of SI-units, safety principles in soil mechanics, vane testing and pore pressure measurements. The Society is preparing an international symposium on laboratory testing and field instrumentation in 1981 just before the Stockholm Conference. The society is represented in several committees of the international society.

The Polish Committee on Geotechnics has organized a large number of local meetings where practical and theoretical problems have been discussed. A seminar on Embankments on organic soils has been held in Poznań in 1977 where also conferences on geotechnical problems of the central regions of Poland were organized (in 1978) and in road and highway construction (in 1980). A joint Polish-French seminar was held in Gdansk in 1978. A national conference on soil mechanics and foundation engineering was organized in Katowice in October 1978. The 6th National Conference will be held in Warsaw in June 1981. The List of Symbols, Units and Definitions was published in Polish in 1978.

The Portuguese Society for Geotechnique (Sociedade Portuguesa de Geotecnia) is publishing the bulletin "Geotecnia". Since 1977 No. 21 to 29 have been issued. Ten national conferences have been organized during the last four years on shallow foundations, ground characterization for building foundations, seismic design of earth dams, seismic design of earth retaining structures, slope stability, engineering geology and earth dams, interaction between earth dams, interaction between earth dams and concrete structures, piles and pavements. In addition several seminars on ground anchors, diaphragm walls and rock fills have been held.

The National Geotechnical Society of Roumania has organized a number of national conferences covering such topics as vibratory techniques foundation of structures on soft soils, laboratory and in-situ investigations, slope stability, soil structure interaction, numerical methods and geotextiles. The Society has organized several specialized courses. Several text books have been published and a national geotechnical data bank has been started since 1977.

The Spanish Geotechnical Society (Sociedad Española de Mecánica del Suelo y Cimentaciones) publishes a geotechnical bulletin every two months with original papers and translations of interesting articles. A symposium on the industrial use of the underground has been held covering tunnels, underground storage, mining and excavation for power plants. The Society has also organized a national symposium on soft rock. 45 papers and four general reports were presented. In addition a number of special lectures on various topics have been arranged.

The Swedish Geotechnical Society with 400 individual members has devoted their main efforts

to the organization of the 10th International Conference with Prof. S Hansbo as Chairman of the Organizing Committee and U Lindblom as Secretary General.

A large number of committees are active in the Swedish Geotechnical Society covering penetration testing, laboratory testing, field investigations, signs and symbols, storage of geotechnical data, bearing capacity, safety problems and finite element method (FEM). The Committee on Laboratory Testing will shortly publish a manual on different laboratory testing methods. Seven of the planned parts are prepared (some of them in English) and two parts will be issued in 1982. The Society is working closely with the Commission of Pile Research and the Committee of Soil Dynamics within the Swedish Academy of Engineering Sciences. There has been two international conferences in Sweden during the last four years, one on "Frost Action in Soils" at the University of Luleå in February 1977 and one on "Application of Stress-Wave Theory on Piles" at the Royal Institute of Technology, Stockholm, in June 1980.

One issue of the magazine "Väg- och Vattenbyggarren" is devoted each year to geotechnical engineering with articles (mainly in English) from the four Nordic countries. There has also been some discussions about a special Nordic geotechnical journal.

Dr L Andréasson, the Director of the Swedish Geotechnical Institute, died unexpectedly January 5, 1980. His successor is Dr J Hartlén.

The Swiss Society for Soil and Rock Mechanics organizes twice a year national meetings on e.g. seismology (1977), rock anchors (1978), pile foundations (1978), ground freezing (1979), rock construction (1980), supervision and control in foundation engineering (1980). The society was also involved in the organization of the 4th International Congress on Rock Mechanics which was held in Montreux in September 1979. Within the Society there is also a group of engineering geologists which cooperates closely with similar groups in FRG and Austria.

The Turkish Group of Soil Mechanics organized in 1978 a three day symposium in honour of Prof. H Peynircioglu at his retirement. At the symposium the applications of soil mechanics were discussed. A jubilee volume "A half century in Geotechnics" was dedicated to Prof. Peynircioglu. The society is now publishing a quarterly Zemin (Soil) in Turkish. Articles in English and French will be included in the future. The society has also been involved in the preparation and the revision of several codes of practice.

Members of the USSR National Committee for Soil Mechanics and Foundation Engineering have prepared a large number of papers (147) for different international and regional conferences. The USSR National Committee is represented in several committees of the international society. A large number of national meetings (6 to 7) are held every year on various problems. Several books covering rheology, mechanical properties of soils, strength of soils, stability of foundations and soil mechanics have been published since 1977.

The Yugoslav Society of Soil Mechanics and Foundation Engineering organized in May 1978 a geotechnical conference in Sarajevo with more than 200 participants. 63 papers and three general reports were presented covering testing of soil properties, in-situ measurements, sampling, earth pressures, tunnels, earth dams, slope stability, highway and airport embankments. In October 1979 a conference was organized to celebrate the 30th anniversary of the Society. In addition a large number of conferences and symposia has been held in different parts of the country on harbours, reconstruction after earth quakes, rock mechanics, landslides. Two books have been published on foundation of structures (Prof. E Nonveiller) and on construction (Prof. L Suklje).

The activities during the past four years by the different national societies have been very intense and are still growing. The period has been characterized by increased cooperation between the societies in the geotechnical field (soil mechanics and foundation engineering, rock mechanics and engineering geology). There is a growing interest in various short courses about the development in different fields (earth quake, engineering, ground water, off-shore etc) as it has become increasingly difficult to read the large number of articles, papers and books that are published each year or to attend all the conferences that are organized. In this field the national societies have a very important role to play.

Stockholm March 1, 1981

Bengt B Broms

APPENDIX VII

REPORT OF THE VICE PRESIDENT FOR NORTH AMERICA 1977-1981

REGIONAL ACTIVITY

The three national Societies, Canada, Mexico and the United States, continue to be among the largest and most active in the International Society with combined membership of more than 3000. The number of technical conferences and symposia per year within the region exceeds 30, covering most specialties of geotechnical engineering. There is good representation from all three Societies at most of these meetings because of direct communication between the Societies. The Canadian Geotechnical Society Newsletter and the American Society of Civil Engineers Newsletter both reference regional and more important international meetings. There is some duplication of membership within the region especially in the Geotechnical Engineering Division, ASCE. Three languages are involved: English (USA and Canada), Spanish (Mexico and Central American) and French (Canada).

PAN AMERICAN CONFERENCE

The sixth Pan American Conference in Soil Mechanics and Foundation Engineering was held in Lima, Peru, Dec. 1979. Dr. Fukuoka, ISSMFE President and Mrs. Fukuoka were guests of honor. Unlike other regional conferences it includes both North America and South America. More than 400 members attended with representatives from all the Societies of both regions. There were 64 technical papers published in 3 volumes and a total of 1500 pages (including discussions). These proceedings can be obtained from the Peruvian National Society, P. O. Box 11076, Lima Peru.

The Official delegates from the member societies met and adopted by-laws to guide future Pan American Conferences. The delegates selected Canada for the Seventh Conference in 1983. (Vancouver has been recommended by the Canadians and their organizing committee is already soliciting suggestions for technical themes).

NEW SOCIETIES

Your Vice President and his wife have made two trips through Central America in 1978 and 1980, meeting with national engineering societies and their members who are specifically interested in geotechnical engineering. Lectures were presented in the name of the ISSMFE in Guatemala in 1978, Honduras in 1978 and 1980, Costa Rica in 1980 and Panama in 1978. In addition, there were meetings in Nicaragua (although somewhat sobered by a shooting revolution) in 1978 and Costa Rica, 1978. Because of political instability, El Salvador was not included although a few geotechnical engineers there maintain membership in the Mexico and U. S. National Societies.

In each of Costa Rica, Honduras, Panama and Guatemala there are 25 to 50 geotechnical specialists in Universities, government offices and the private engineering sector. They are members of "Colleges of Engineering": national quasi-public professional societies that govern the professional practice of engineering as well as promote technical growth of their members. Geotechnical sub-committees are presently functioning in Costa Rica, Honduras and Panama; there is interest in Guatemala and Nicaragua but political unrest inhibits technical development. The Costa Rica group has submitted its by-laws for ISSMFE approval and may become the newest member. It is likely that Panama and Honduras will follow, particularly if we encourage them. The Central American Societies will be small; their size will be offset by their enthusiasm and their stimulation by close ties to the other North American Societies.

CANADA

The Canadian Society, ISSMFE is the international liaison group of the Canadian Geotechnical Society which has a current membership of about 1000. The international liaison is administered by the Associate Committee on Geotechnical Research of the National Research Council of Canada, a Canadian Government agency. The Canadian Geotechnical Society, Engineering Geology Division, is also the international representative to IAEG.

Conferences

National conferences are held annually with average attendance of 250, 5 to 10 technical sessions and 30 technical papers presented orally. Six speciality conferences have been held during the past 4 years: muskeg (2), permafrost, marine geotechnical engineering, slope stability in urban areas and geotextiles. The attendance ranged from 60 to 450. A total of 225 papers was presented.

Publications

The Canadian Geotechnical Journal is published 4 times per year with nearly 200 technical papers comprising 2000 pages during the past 4 years. There are 2500 subscribers, about half of which are from outside Canada. A newsletter that describes the activities of 13 regional sections of the Society as well as conferences and symposiums in Canada and North America (and other nations to a lesser extent) is issued 4 to 5 times annually.

Other publications include (1) CANADIAN FOUNDATION ENGINEERING MANUAL and (2) pre-prints of the speciality conferences on marine geotechnology, urban slope stability and geotextiles. Publication lists, prices and orders are through:

Mrs. Moira Meddings
Canadian Geotechnical Society
700 EIC Bldg., 2050 Mansfield 4
Montreal, P.Q. H3A 1Z2, Canada

Lectureships and Awards

Two cross-country lecture tours are sponsored annually by the Society. The lecturers and subjects are determined by the Board. They feature well-known researchers and practitioners from Canada as well as foreign nations.

Three awards are made annually:

1. R. F. Leggett Award: Exceptional service to geotechnical engineering in Canada.
2. Canadian Geotechnical Award: The best paper judged from the Canadian Geotechnical Journal.
3. Canadian Geotechnical Colloquium: A commissioned lecture to a younger practitioner on a subject of interest to Canadian Geotechnical Engineering.

MEXICO

The Mexican Society of Soil Mechanics (Sociedad Mexicana de Mecanica de Suelos, SA) is the ISSMFE affiliate, with a membership of 402. A two day society-wide conference is held every even numbered year. It is followed immediately by a half day colloquium: The Nabor Carillo Lecture. The conferences are sometimes immediately preceded by meetings of special interest groups, such as professors of soil mechanics in 1980.

During the past 4 years there have also been six more specialized conferences and symposia with an average attendance of 250. Among them was the International Symposium on Soil Mechanics at Oaxaca, March 1979, held in conjunction with the ISSMFE Executive Committee Meeting. There were also international symposiums on marine soils and on reinforced earth in 1980. A newsletter is published several times annually that describes Society activities.

Publications

The Society currently lists 14 volumes in English-Spanish plus 14 in Spanish only. These include proceeding papers of the national conferences, special lectures and monographs on such topics as the Mexico City Metro, Subsidence in Mexico, landslides, hydro projects and deep foundations. They also include the proceedings of the First Pan American Conferences on Soil Mechanics and Foundation Engineering in 1959. The SOIL MECHANICS GLOSSARY OF TERMS USED IN LATIN AMERICA contains 2231 entries in English, Spanish, Portuguese and French, emphasizing national usages in the Americas (\$9.00 U.S.). Publication lists can be obtained and orders placed at the Society

offices:

Sociedad Mexicana de Suelos A.C.
Londres 44 20 Piso
Coyoacan, Mexico 21, D.F.

Lectureships and Honors

A lecture in honor of Nabor Carillo is presented every two years by an outstanding Mexican (and sometimes foreign) geotechnical engineer. Honorary memberships are bestowed on outstanding Mexican (and foreign) engineers who have contributed to Mexican geotechnical development.

UNITED STATES

The U. S. National Society is a committee of the Geotechnical Engineering Division, American Society of Civil Engineers. It has a membership of 2,000 out of the 15,000 members of the Geotechnical Engineering Division. The officers of the Division serve as the officers and Board of the USNS. The USNS secretary, who coordinates international correspondence, is appointed by the Division Executive Committee and serves for an indefinite term. He is independent of the Division Secretary.

Conferences

Two ASCE Society-wide conferences are held annually, each with from 4 to 10 three hour sessions devoted to geotechnical engineering. Session attendance ranges from 50 to 400. During the last 4 years approximately 400 papers were presented orally. Preprints were available for about half; about 50 were published eventually.

Three major speciality conferences and two state-of-the-art conferences have been held 1978-1981 with an average attendance of 750. In addition, about 50 smaller interdisciplinary conferences and regional conferences on geotechnical topics and more than 100 conferences on multi-disciplinary topics have been held. Some are jointly sponsored by Universities, other technical societies, and regional ASCE geotechnical groups.

Publications

THE JOURNAL OF THE GEOTECHNICAL ENGINEERING DIVISION, PROCEEDINGS ASCE is published monthly by ASCE. During the last 4 years it has included 240 papers and 75 technical notes in 6000 pages. The major speciality conferences have produced multi-volume proceedings with a total of 150 papers in 2500 pages. Special symposiums include 250 papers and 4000 pages in 8 volumes. CIVIL ENGINEERING, a monthly magazine, includes less technical articles including those of geotechnical interest. Lists of publications, prices and orders are directed to:

Director, Publications Marketing, ASCE
345 E. 47th Street
New York, N.Y. 10017, U.S.A.

Continuing Education

Continuing education courses, at the post-graduate level, are sponsored directly by the Geotechnical Engineering Division. Some are offered during and immediately following the two ASCE annual conferences. Others are offered at numerous locations throughout the U.S.; some are jointly sponsored by the various engineering colleges. The topics range from new developments in analysis, design and construction to business, legal and risk prevention in geotechnical engineering. Announcements are made in the ASCE newsletter and CIVIL ENGINEERING magazine.

Lectureships and Awards

The Terzaghi Lecture is the only public lecture sponsored by ASCE. It is presented annually by an outstanding U.S. or foreign geotechnical engineer selected by the Geotechnical Division Executive Committee, based on technical accomplishments and communication skill.

The Karl Terzaghi Award is presented annually to that geotechnical engineer who has made major continuing contributions to geotechnical engineering, particularly in ASCE publications.

The Middlebrooks Award is made annually for a Geotechnical Journal paper of particular merit. The MS Kapp Award is made annually for an innovative and outstanding geotechnical design or construction technique.

In addition, the ASCE Norman Medal (ASCE-wide) is awarded annually for the outstanding ASCE paper in any category. Since 1970 seven of the ten have been to authors of Geotechnical Division papers.

Vice President Activities

I attended meetings of the Executive Committees or Boards of all three National Societies. In addition, I met with the Costa Rica National Society Board in August 1980. My activities with respect to future societies are related elsewhere.

FUTURE

Three recommendations are made for future Vice Presidents. First, national societies, however small, should be actively nurtured in Central America and the West Indies. This will continue the work begun by Marsal, V. President 1973-77. Secondly, the Vice President (and ISSMFE) should expand the concept of visiting lectureships to the smaller societies, as envisioned by Vice President Martinez of South America. My tours in Central America were enthusiastically received with requests for more. Third, we should develop technical short courses in both applied and theoretical topics for the smaller Societies that have limited access to University continuing education.

George F. Sowers

REPORT OF THE VICE - PRESIDENT FOR SOUTH AMERICA, 1977 - 1981

REGIONAL ACTIVITY

South America being a region of accelerated development, geotechnical activities have been centered principally in professional works corresponding to large engineering projects. The working stress does not give our colleagues much time free other than working in their own field, professional and university. However, in our Region, Soil Mechanics and Foundation Engineering is, no doubt, the most active branch of Civil Engineering seeking technological progress. Congress, Seminars, Symposia, Colloquia, etc., had been held during the period. The detail is given in the Report corresponding to each country.

IV PANAMERICAN CONFERENCE

The PanAmerican Conference is the most important event that takes place in the Region. It has the particular advantage that is attended by members of two Regions: North and South America.

The IV PanAmerican Conference on Soil Mechanics and Foundation Engineering was held in Lima, Perú, December 1979. Details of this Conference are given in the summary of activities corresponding to Perú.

During the Conference, the official delegates of the member Societies met to create the PanAmerican Geotechnical Engineering Committee. The objective of this entity is to guide the meetings of delegates that would take place during the World and PanAmerican Congress. By-laws were adopted. President M. Fukuoka attended one of the meetings.

The delegates accepted the invitation presented by Canada to organize the VII PanAmerican Conference in 1983.

A new subregional entity became organized in Lima: the Regional Secretary of Andean-tropical Soils, jointly formed by Bolivia, Colombia, Perú, Venezuela and Ecuador and based in this last country. A I International Congress on Andean Tropical Soils was organized and held in Guayaquil, Ecuador, in May, 1981, which is reported in the section corresponding to Ecuador.

NEW SOCIETIES

In 1977, the Dominican Republic Society of Soil Mechanics and Foundation Engineering was incorporated to the ISSMFE. In 1981, the Paraguayan Geotechnical Association became a new member. The Region feels happy to have in the International Society this two new active members.

Steps have been taken to organize a National Bolivian Society. Their activities are following that direction. At the present time, the Bolivian geotechnical engineers already have all the necessary documentation to present an application to the ISSMFE. Two Bolivian engineers attended as invited representatives the meetings of the official delegates of the America held during the PanAmerican Conference in Lima.

REVISTA LATINOAMERICANA DE GEOTECNIA

Organized in 1979 by agreement between all the Latin American Societies of the South and North American Regions, is published in Caracas, Venezuela, in Spanish and Portuguese languages, and with English translations. It is the only mean to diffuse the publication of technical papers in our Region. It has been active during the period.

SUMMARY OF ACTIVITIES OF THE NATIONAL SOCIETIES

ARGENTINA. Members: 71

Main events during the period:

- The V Argentinian Congress on Soil Mechanics and Foundation Engineering, held in Buenos Aires, October 18-21, 1977.
- The VI Argentinian Congress on Soil Mechanics and Foundation Engineering, held in Carlos Paz (Córdoba), September 22-24, 1980.

BRAZIL

The Brazilian Association of Soil Mechanics comprises several Regional Divisions, and the Brazilian Committee on Rock Mechanics. Presently the total number is 1.200, being 200 Representative (members also of the ISSMFE), 20 Collective and others Titular or Affiliates.

Awards. The Association has awarded, in 1981, the titles of "Honorary Member" to Prof. Arthur Casagrande, and "Emeritus Member" to Prof. Mario Brandi Pereira.

The biannual "Terzaghi Prize", in the period 1977-1981, was awarded to Prof. Víctor F.B. de Mello (for his Rankine Lecture), Dr. Paulo T. Cruz (ensemble of works in Soil Mechanics), and to Dr. Milton A. Kanji, Dr. Fernando O. Franciss, and Mr. Murillo D. Ruiz (for their contributions in the field of Rock Mechanics).

CONGRESSES

- The 6th Brazilian Congress on Soil Mechanics and Foundation Engineering held in 1978 in Rio de Janeiro, with about 700 participants.
- The above Congress was immediately followed by the International Symposium on Rock Mechanics Related to Dam Foundations, with about 800 participants of which 400 from abroad.

REGIONAL SYMPOSIA

- 1st Symposium on Sub-soil Investigation in Northeastern Brazil, Recife, November 1977.
- 1st Regional Seminar on Soil Mechanics and Foundation Engineering, Salvador, May 1978.
- 2nd Regional Seminar on Soil Mechanics and Foundation Engineering, Salvador, May 1980.
- Symposium on Tunneling and Deep Excavations Tunnels in Soils, Sao Paulo, April 1981.

LECTURES, WORKSHOPS, AND SPECIAL COURSES

- Course on Geotechnical Borings. National University of Brasilia, 1980.
- About 80 lectures promoted by the Regional Divisions in Sao Paulo, Rio de Janeiro and Brasilia.
- Lecture Series on Foundation Construction, Concrete Pavements, Pile Foundations and Geotechnical Instrumentation, in 1979 and 1980, in Brasilia.
- Lecture Series on Geotechnical Aspects of several large Hydroelectrical Projects (Itaipu, Agua Vermelha, Tucurui, etc.) in Sao Paulo and Rio de Janeiro.

PUBLICATIONS

The Association sponsors an official publication, the journal "Solos e Rochas", with 4 issues per year.

CHILE. Members: 30

This country has started an intense activity in the field of embankment dams design, hydroelectric power plants and civil engineering applied to mining.

The Chilean National Society represents in Chile to the International Society of Rock Mechanics.

The National Society is taken steps to an active future.

The Society has sponsored technical lectures, as:

- New methods of dams design and construction.

- The Sixth PanAmerican Congress on Soil Mechanics and Foundation Engineering.

-Seismic stability of slopes.

- Present practise of geotechnical engineering in Japan.

DOMINICAN REPUBLIC. Members: 43

No formal reply was received.

However, from former reports, the Regional Vice-President can inform on at least the following activities:

- 1977 -Coloquiumon Dredging.
 - Conference onSeismic Design and Technical Visits to dams in construction.
- 1978 -Round table on comparative analysis of geophysical methods for subsoil studies, and technical visits to urbanizations of Santo Domingo City.

ECUADOR. Members: 57

No formal reply was received.

However, from former reports, we can mention:

- August 1978 - Seminar on deep foundations and pile system.
- 1979 - Monthly conferences on Soil Mechanics and Geotechnics on: slope stability, geotechnical planification of Guayaquil, tunneling, settlement problems, diaphragm walls, etc.

Besides, this Society took the iniciative to create the Regional Secretary of Andean Tropical Soils, which includes Bolivia, Colombia, Ecuador, Perú and Venezuela.

The I International Congress on Andean Tropical Soils organized by the Ecuatorian Society, was held in Guayaquil, May 21-23, 1981, with the attendance of distinguished foreing Professors.

PARAGUAY. Members: 18

The Paraguayan Association on Geotechnics has recently become an official member of the ISMFE

The First Geotechnical-Structural Conference was held in Asunción.

The Association is active in the organization of a new conference and a post-graduate course.

PERU. Members: 59

The Peruvian Committee on Soil Mechanics, Foundations and Rock Mechanics, has reported the following activities:

- 1977 Short course on Exploration and Sampling for engineering projects.
- 1978 I Seminar on Soil Mechanics applied to Engineering.
- III National Congress on Soil Mechanics and Foundation Engineering.
- II Seminar on Soil Mechanics: Soil Dynamics.
- 1979 VI PanAmerican Congress on Soil Mechanics and Foundation Engineering. December 2-7, 1979.
- Attendance: 423 persons from 23 countries. Besides of all the North, Central and South American countries, also from India, Spain, France, Germany, Australia and Japan.
- Specially invited: Prof. M. Fukuoka, President of ISSMFE, Prof. F. Martínez and G. Sowers, Vice-Presidents of South and North America. President of the Organizing Committee was Prof. A. Carrillo-Gil. The Congress authorities were received by the President of the Peruvian Republic and by the Major of Lima, who declare them Distinguish Visitants of the Virreynal City of Lima.
- 1980 The Peruvian Committee colaborated in the new National Regulations for Constructions in Perú.
- 1981 III International Seminar on Soil Mechanics: Soil liquefaction during earthquakes.

OTHER COUNTRIES

No formal replies were received from the National Societes of Colombia (56 members), and Venezuela (217 members).

APPENDIX IX

REPORT OF THE INFORMATION ADVISORY COMMITTEE TO THE EXECUTIVE COMMITTEE OF THE ISSMFE

Saturday, June 15, 1981

Mr. President, fellow members of the International Society, it is my pleasure to report to you on the activities of the Information Advisory Committee.

The terms of reference of this committee are as follows:

1) to advise the management of Geotechnical Abstracts as to how they can best serve the needs of the ISSMFE membership in the provision of geotechnical literature abstracts.

2) to keep in touch with other geotechnical societies and those responsible for the production of other geotechnical abstracts.

3) to make recommendations to the Executive Committee of the ISSMFE with regard to Abstract and Retrieval Systems.

There are 10 members of the Information Advisory Committee (IAC); we represent 9 different Countries.

With respect to Item No.1 of our mandate - to advise Geotechnical Abstracts which is published by the national society of the Federal Republic of Germany, - your Committee is discussing with Geotechnical Abstracts (GA) the following items:

i) a new list of key words is required and a decision has to be made as to who will make up the list of key words for a particular article (the author, the abstractor, or the editor). Committee member Kuehn has compiled an alphabetical list of key words for consideration by the IAC.

ii) the language that the original article, paper, book, etc was written in should be indicated in the GA index for the convenience of subscribers.

iii) concern has been expressed that GA is not covering adequately the whole sweep of geotechnical literature. It is recommended that GA should sample how well its abstracts represent the total number of geotechnical journals, articles, books, etc.

iv) if possible, GA should provide a copy service for subscribers. GA has available to it, all the articles, etc which it abstracts, so that Xerox copies could be sold to subscribers who find it difficult to locate an original paper, etc.

v) it is felt that the length of time between when an article appears and when the abstract is published is too long. GA should sample how long it takes.

vi) GA should publish the address of the publisher of articles abstracted in GA; a subscriber would be able to obtain a copy of

the publication directly if he cannot find it locally.

vii) GA should act as a repository for the ISSMFE of geotechnical literature. GA receives many publications; it should retain these indefinitely for future references.

In addition, it was felt that a survey should be made by GA to find out how well it was providing ISSMFE members with service. If it is found that GA is not used by that many ISSMFE members, the reasons for this lack of market penetration should be investigated.

Members of the ISSMFE Executive Committee are invited to add to this list of subjects to be discussed with GA, or to make comments.

One important advance in Geotechnical Abstracts took place with issue No.1 of GA this year (1981). The new version of the International Geotechnical Classification System is now being used.

GA has now agreed to publish abstracts of geotechnical computer programs. However, the onus is on the Geomechanical Computer Programs Committee of the ISSMFE, chaired by Dr. Eisenstein, to provide GA with abstracts.

Now, I wish to comment on Item No.2 of the IAC mandate - keeping in touch with other Societies which produce geotechnical abstracts. Two activities of importance are:

i) members of the IAC worked with their counterparts in the International Association of Engineering Geologists (IAEG) and the International Society for Rock Mechanics to produce the International Geotechnical Classification System referred to above. Now that this Classification System is in use by Geotechnical Abstracts, the work of the International Committee on Classification of Geotechnical Literature is completed. Nils Flodin of the IAC recommends that the Classification Committee be disbanded.

ii) in addition to Geotechnical Abstracts, there are a number of other abstracting and information services. A principal service is that of the Asian Information Centre for Geotechnical Engineering (AGE). AGE is continuing to expand in membership and awareness services. While only Asian publications are abstracted by AGE, advertisements by AGE do state that its publications give abstracts from leading geotechnical journals from around the world. AGE is now supported financially by the Asian Institute of Technology and by the S.E. Asian nations of the ISSMFE. Funding of AGE by the International Development Research Centre of Canada now is only \$6,000 (Canadian) per year as compared to \$47,000 per year two years ago. It is the intention of the IAC to work with AGE to the benefit of the members of ISSMFE.

With regards to the third Item in the terms of reference of the IAC - to make recommendations to the Executive Committee of the ISSMFE, - we have three major recommendations:

- i) the Information Advisory Committee should continue. We intend to hold a Committee meeting at 12.15, Thursday June 18, 1981.
- ii) the Executive Committee should instruct the IAC to
 - a) prepare a geotechnical thesaurus building of the new Lexicon and the new International Geotechnical Classification System.
 - b) review the status of computer abstract storage and retrieval system and report to this Executive Committee at its next meeting (in Paris) with recommendations for the future.

(a few words are in order here. The whole of Geotechnical Abstracts is now in the computer of the Federal Republic of Germany's Road Research Institute. Access to the information is by means of four terminals in Germany. In addition, the Swedish Geotechnical Institute participates in a more broadly based group putting road and traffic references into the computer. The Swedish Geotechnical Institute will demonstrate its computer literature storage and retrieval system in GeoEx '81 during the time of the tenth ICSMFE. At the present time, our committee's thoughts are to have regional centres responsible for the storage of information to make access easier. These regional information centres could have other duties as well - such as being responsible for abstracting literature of their region, much as AGE does now. The Federal Republic of Germany's National Society has indicated that it might be able to support financially the establishment of an international computer literature service. Running such a service should be on a user pays basis so that no continuing subsidy would be required).

- c) the IAC must become more aggressive in its advisory role to Geotechnical Abstracts. There is room for improvement. It is recommended, for example, that the IAC hold meetings in the near future with the Federal Republic of Germany's National Society on how best to formalize closer scrutiny of GA by the IAC.

In summary - Mr. President - the Information Advisory Committee is active. We have an important task to perform. We await the instruction of the Executive Committee.

D.H. Shields
Chairman, IAC/ISSMFE

ADDENDUM

In its meeting of June 18, 1981 in Stockholm, the Information Advisory Committee (IAC) made the following decisions:

- 1) to set up three sub-committees under the chairmanship of IAC members. The three sub-committees are:
 - a) Thesaurus Sub-committee to be chaired by Dr. Kuehn of the Federal Republic of Germany.
 - b) Computerization Sub-committee to be chaired by Mr. Florentin of France.
 - c) Geotechnical Abstracts Sub-committee to be chaired by Professor Manoliu of Romania.

Each of the three sub-committee chairman is expected to present a list of committee members to the IAC by September 30, 1981 along with suggested terms of reference.

The possibility of setting up a fourth IAC sub-committee was discussed. This fourth committee would be charged with the responsibility of investigating the feasibility of setting up regional abstract and retrieval centres. It was decided to postpone setting up this sub-committee until a new Secretary General of ISSMFE had been appointed and the views of the ISSMFE regarding regional centres of its own could be garnered.

2) Dr. Kuehn of the Federal Republic of Germany would discuss the criticisms and suggestions concerning Geotechnical abstracts with the National Society of the FRG (see report by the Chairman of the IAC to the ISSMFE Executive Committee on June 15, 1981). Dr. Kuehn would then reply to the IAC and the Secretary General.

3) To recommend that the International Committee on Classification of Geotechnical Literature be disbanded - at least for the time being.

4) That IAC should meet at least once each year in future. A meeting of the IAC is called for April 21, 1982 in Paris.

5) That the incoming President and the Steering Committee of the ISSMFE be approached by the Chairman of the IAC to solicit funds for the support of the IAC. Such funds would be used by the IAC to support the activities of its sub-committees and to pay for travel of IAC committee members to oversee the activities of Geotechnical Abstracts.

DHS

APPENDIX X

SUB-COMMITTEE ON

FIELD AND LABORATORY SOIL TESTING

Report to the Executive Committee ISSMFE, 1981

At the last meeting of the Executive Committee of the ISSMFE in April 1979, a new sub-committee was initiated by President Fukuoka. The terms of reference of this committee are

- (i) - to determine the methods used by various National Societies to obtain the strength and deformation characteristics of soils for the design of structures and
- (ii) - to prepare a manual for carrying out two field tests (plate loading tests and pile loading tests) and three laboratory tests (unconfined compression, triaxial shear and consolidation).

The Chairman asked by letter of June 28th the National Societies for their interest in promoting this work. Following the recommendations which were obtained from the National Societies a membership of 18 colleagues was established which was extended by later nominations to a number of 26 at present.

By the 26th of July, 1979, an exchange of already existing national papers was started by the Chairman who circulated ASTM Standards 1195-64, 1143-74, 2166-66, 2850-70 and 2435-70 to the committee. This was followed by a first meeting during the 7.ECSMFE at Brighton in September 1979. It was agreed to go on by collecting national contributions to the various matters until the end of 1979. Further, individual members of the committee were asked to prepare a draft for either test to obtain a common base for further discussion: Mr.Marsland for the Plate Load Test, Mr.Berre for the Triaxial Test (containing the Unconfined Compression, Consol-

idated Undrained and Drained Test), Dr.Frydman and Dr.Calabresi for the Consolidation Test, and Dr.Smoltczyk for the Pile Load Test.

There was agreement that the manuals to be prepared should not replace a textbook on soil testing but should define minimum requirements to be fulfilled by any engineer who performs such tests in the professional field. These requirements would comprise scope of applicability, instrumentation, sample dimensioning, test procedure, plotting and evaluation of results. Draft proposals were not intended to be termed "Standards" but rather "International Codes of Soil Engineering Practice".

All four draft proposals will be available at the time of the 10.ICSMFE: the pile load test draft was sent to all members at the 25th of July 1980, the draft on consolidation tests at the 26th of August 1980. The draft on the first part of the triaxial test was finished by February 1981, the Plate Loading Test draft in Spring 1981.

There was a very vivid echo to the "Principles of Axial Pile Load Testing": comments were sent from Czechoslovakia, Finland, France, Germany, Great Britain, India, Poland, Spain and USA. The most pessimistic view was expressed by the Chairman of the ASTM Committee on Deep Foundations saying that they would not believe it is possible for the ISSMFE Subcommittee to produce a truly consensus standard suitable for worldwide adoption:"the ISSMFE organization is just not geared for the consensus development process". Now, the committee will have to check whether this is true or not. All comments were collected and answered by the Chairman, the complete document being sent to the members in February/March 1981. Looking it through, one may find much reason for a positive evaluation of the possibility to harmonize the various, most valuable contributions. It is felt that the mutual understanding of professional views is promoted by such committee work in a more intense manner than this may be achieved by published papers during conferences.

The 10.ICSMFE in Stockholm is a chance for a personal meeting of the committee where some of the more essential items can be discussed.E.g. one of the major points of disagreement is the factor of safety to be applied in evaluating

test results. It might be useful to discuss this fundamental point during the International Conference in session 8 on Pile Foundations.

Next to the meeting in Stockholm, there will be a chance for a personal meeting at the European Symposium on Penetration Testing, May 24th - 28th, in Amsterdam. This could be the time to be ready for publication with at least two of the test manuals.

U.Smolczyk, Stuttgart (FRG)

APPENDIX XI

REPORT

to

The Executive Committee of the
International Society for Soil Mechanics and
Foundation Engineering

on

Publication of Abstracts
of Geomechanical Computer Programs

by

ISSMFE Sub-Committee on Geomechanical Computer Programs

February 1981

INTRODUCTION

The ISSMFE Executive Committee at its last meeting held in Oaxaca, Mexico on March 9-10, 1979 considered a report submitted by the ISSMFE Sub-Committee on Geomechanical Computer Programs entitled "Policies Related to Publicity and Exchange of Geomechanical Computer Programs". The Executive Committee accepted recommendations of the report and asked the Sub-Committee to continue with its work.

The recommendations of the Sub-Committee report read:

1. Approach the three existing systems of geotechnical abstracts (a) Geotechnical Abstracts published by the German Geotechnical Society, (b) AGE Current Awareness System published by the Asian Information Center for Geotechnical Engineering at AIT in Bangkok, and (c) Geodex International Co. with a proposal to include a special section in their publication on computer program abstracts;
2. Extend ISSMFE endorsement to such a section (in a way similar to endorsing the publication of the Geotechnical Abstracts);
3. Offer help (through the Technical Sub-Committee on Computer Programs) to find qualified editors for such a section;
4. Support educational efforts in the area of geotechnical software exchange through special sessions at international conferences, such as Specialty Session 12 at the 9th ICSMFE in Tokyo, 1977.

ACTIVITIES

Following the Oaxaca meeting the Chairman of the Sub-Committee met with representatives of the German Society of Soil Mechanics and Foundation Engineering (Prof. Smolczyk, Prof. Wittke, Dr. Semprich, Mr. Kühn) on the occasion of the 3rd International Conference on Numerical Methods in Geomechanics in Aachen, Germany in April 1979. The proposal of the ISSMFE Sub-Committee to add a section on computer programs to the Geotechnical Abstracts was discussed. The representatives of the German SSMFE agreed in principle with the idea and referred the proposal for further consideration to the Committee on Numerical Procedures in Geotechnics of the German SSMFE and to the editors of the Geotechnical Abstracts.

The German SSMFE accepted the proposal by a letter of January 20, 1981 (copy of the letter is in appendix to this Report). Detailed directions regarding the format of the abstracts and guidelines for their publication have been prepared by Dr. Semprich of the Technical University in Aachen. A copy of these directions is also

attached to this report.

The Asian Institute of Technology has also expressed an interest in including geomechanics computer program abstracts in their publications (The Current Awareness Journal or the AGE Abstracts). While the ISSMFE Sub-Committee welcomes this initiative, it cannot recommend an ISSMFE endorsement at this time, since the issue of ISSMFE sponsorship of the AGE Abstracts has not been resolved yet.

FUTURE ACTION

A meeting of the ISSMFE Sub-Committee on Geomechanical Computer Programs is planned during the 10th ICSMFE in Stockholm in June 1981. At this meeting the two remaining points of the Sub-Committee recommendations of March 1979 will be discussed, namely:

3. Offer help (through the Technical Sub-Committee on Computer Programs) to find qualified editors for such a section;
4. Support educational efforts in the area of geotechnical software exchange through special sessions at international conferences, such as Specialty Session 12 at the 9th ICSMFE in Tokyo, 1977.

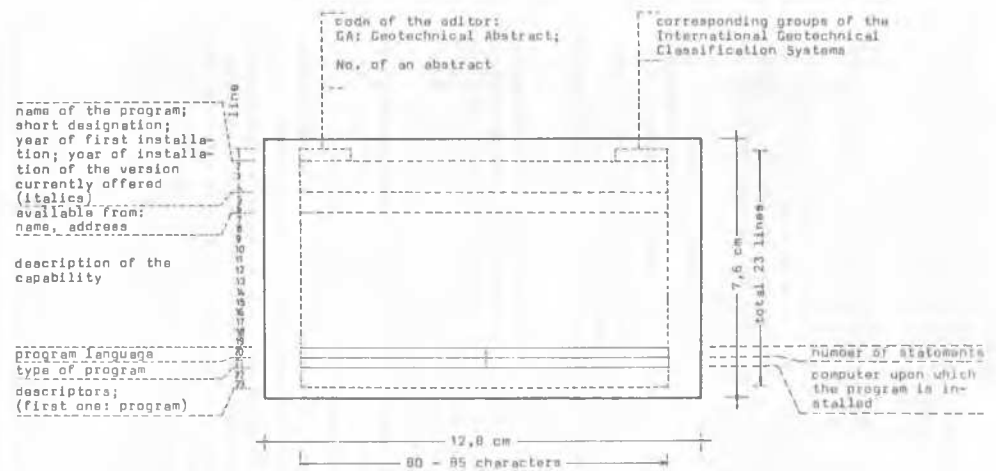
RECOMMENDATIONS

The Technical Sub-Committee on Geomechanical Computer Programs recommends that the International Society for Soil Mechanics and Foundation Engineering endorses the inclusion of a computer program abstract section in the Geotechnical Abstracts, with guidelines as prepared by the German National Society of Soil Mechanics and Foundation Engineering.

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Encl. 2
 noc

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CA					
NOC					
Encl. 2					



Concept for the contents and form of a program abstract

Concept

Letter head: GEOTECHNICAL ABSTRACTS
 GEODEX RETRIEVAL SYSTEM
 (Address)

Directions for drafting a program abstract

Upon the suggestion of the International Society of Soil Mechanics and Foundation Engineering as well as of the International Society of Rock Mechanics, data processing programs corresponding to the area of geotechnics have been documented in the Geotechnical Abstracts since

The goal of this program documentation is to inform, at the international level, of the newest state of data processing in geotechnics and to stimulate the exchange of programs.

Necessary for the publication of a data processing program is the completion of the enclosed form for the drafting of a program abstract. It should be sent to the following address:

.....

The editors of the Geotechnical Abstract will decide regarding publication together with an international panel of independent experts. Included in the documentation will be programs which can be run independently in an advanced computer language. A legal claim to publication does not exist. The publication of a program abstract is free of charge to the contributor.

The following advice should be followed while completing the enclosed form:

- all information should be in English
- since space in the documentation box is limited, the number of typewriter characters listed cannot be exceeded
- under the heading "capability" information about the model concept upon which the method of calculation is based, the method of calculation itself as well as about the data input and output are meaningful. Furthermore, any specialties of the corresponding program should be accentuated. In some cases information on the user manual available can also be important.

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Repetition of information contained in the name of the program should be avoided. Complicated formulas should also be avoided. Abbreviations must be written out in the text at least once.

- under the heading "type of program", a difference should be made between "interactive" and "batch" programs
- the descriptors will be designated by the editors as is the classification according to the International Geotechnical Classification Systems
- the contributor certifies with his signature that he is empowered to make the above information public. Furthermore, the contributor agrees to the formulation of a German version which will be published in the German edition of the Geotechnical Abstracts.

 GEOTECHNICAL ABSTRACTS
 (program abstract)

GA	IGC
Name of the program and short designation (max. 320 characters):	
Year of first installation:	
Year of installation of the version currently offered:	
Available from (max. 160 characters):	
Capability (max. 1000 characters):	
Program language:	
Number of statements:	
Type of program:	
Computer upon which the program is installed:	
Descriptor:	
Name and address of contributor:	

.....
 Signature

GA	IGC	Encl. 6
Title of the program and short description (max. 220 characters)		
Three-dimensional calculation of stresses and displacements for the analysis of the stability of caverns, slopes and foundations in soil and rock (FEST 03)		
Year of first installation:	1979	
Year of installation of the version currently offered:	1980	
Available from (max. 180 characters)		
Institut für Grundbau, Bodenmechanik, Felsmechanik und Verkehrswasserbau der RWTH Aachen, Mies-van-der-Rohe-Str. 1, 5100 Aachen, F.R.G., Rep. of Germany		
Capacity (max. 1000 characters)		
<p>The method of calculation is based upon the Finite Element Method. The program implements element types of an isoparametric three-dimensional element with 8 - 21 nodal points, as well as bar, spring and joint elements. A linearly elastic viscoplastic stress-strain behaviour is assumed for the ground. In the elastic range a transverse isotropy is described by the constants of elasticity E_1, E_2, ν_1, ν_2, G_{12}. The transition from elastic to viscoplastic displacements is described by the Mohr-Coulomb failure criterion for isotropic strength as well as for planes of reduced strength of any given spatial orientation (e.g. discontinuities and schistosity in rock masses). The simulation of the different construction stages and the associated states of stress and displacement can be determined very economically by means of an iterative method. The stresses and displacements can be plotted perspective with the aid of a plotter program.</p>		
Program language:	Fortran	
Number of statements:	about 8000	
Type of program:	batch	
Computer upon which the program is installed:	IBM 3033	
Description:	program, cavern, slope, foundation, stability, Finite Element Method	
Name and address of contributor:		

Signature

letter head: GEOTECHNICAL ABSTRACTS
 GEDDEX RETRIEVAL SYSTEM
 (Address)

Comments to a notice regarding the introduction of the program abstract within the Geotechnical Abstracts

- This notice should be in English, German and French
- Upon the suggestion of the International Society of Soil Mechanics and Foundation Engineering as well as the International Society of Rock Mechanics the data processing programs concerning the field of Geotechnics will be documented in the future in the Geotechnical Abstracts. The goal of this program documentation is to inform, at the international level, of the newest state of data processing in geotechnics and to stimulate the exchange of programs. The editors will decide regarding publication together with an international panel of independent experts. Included in the documentation will be programs which can be run independently in an advanced computer language. The publication of a program abstract is free of charge to the contributor
- Those interested in publishing a program in the Geotechnical Abstracts are asked to request the necessary form and instructions from the following address:

- The program abstracts will also be published in German in the German edition of the Geotechnical Abstracts
- The distinguishing feature of a program abstract is the first descriptor which is "program"
- Signer of this notice: editors
- Distribution of the notice:
 subscribers to the Geotechnical Abstracts and Geddex Retrieval System
 members of ISSMFE
 possibly as enclosure to the mailing of the discussion volume of the X. Int. Conf. in Stockholm

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members of ISRM
 publication in the "Nouvelles" of the society
 national representatives of the ISSMFE and ISRM with the request that they pass it on to interested colleagues

APPENDIX XII

REPORT OF THE SUB-COMMITTEE ON STANDARDIZATION OF PENETRATION TESTING IN EUROPE

Rapport du Sous-Comité Européen
de Standardisation des Essais par
Pénétration

CONTENTS

1. ACTIVITIES OF THE SUBCOMMITTEE ON STANDARDIZATION OF PENETRATION TESTING IN EUROPE 1977-1981
2. RECOMMENDATIONS OF THE SUBCOMMITTEE ON STANDARDIZED PENETRATION TESTING METHODS
3. RECOMMENDED STANDARD PENETRATION TESTING METHODS
 - 3.1 Previously recommended standards
 - 3.2 Recommended standard for light dynamic probing test (DPL)

APPENDIX E Recommended standard for light dynamic probing test (DPL)

1. ACTIVITIES OF THE SUBCOMMITTEE ON STANDARDIZATION OF PENETRATION TESTING IN EUROPE 1977-1981

At the 9th ICSMFE in Tokyo 1977 the Subcommittee on Standardization of Penetration Testing in Europe presented a report on its activities from 1957-1977. The report included:

- i. Recommended standards for the following penetration testing methods.
 - a. Cone penetration test (CPT)
 - b. Dynamic probing (DPA and DPB)
 - c. Standard Penetration test (SPT)
 - d. Weight sounding test (WST)
- ii. Recommendations on the use of the standardized penetration testing methods.
- iii. Recommendations for future research concerning penetration testing.

The Subcommittee report was published in the Proc. of the 9th ICSMFE, Vol 3, pp 95-152. The recommended standard penetration testing methods were adopted at the Executive Committee which was held in Tokyo.

Since then the Recommended Standards have been printed in both English and French and distributed all over the world from the ISSMFE Secretariate.

In 1978 the Subcommittee sent out a questionnaire to the European National Societies concerning the use of penetrometers and the experiences with the proposed standards in different countries. The following questions were asked:

- (a) To what extent are the recommended standards used in your country in research or in practice?
- (b) Are any changes of the standards necessary recommended or desirable?
- (c) Are there any plans to adopt the recommended standards as national standards?
- (d) Should other penetration testing methods be standardized?
- (e) What can be done to promote the use of the recommended standard in research?
- (f) Is it desirable to arrange a second European conference on penetration testing?
- (g) Is it desirable to make the European Standard an international standard for penetration testing?
- (h) Has there been made in your country comparisons between the four Recommended Standard Test Methods?

Answers were received from 14 different countries and can be summarized as follows:

- (a) The different recommended standards are used more or less in different countries but the tests are not always in complete accordance with the recommended standards. The CPT and the SPT tests seem to be the most widely used penetration testing methods.
- (b) Most National Societies answers there is no need for any changes at present.
- (c) Some societies plan to adopt the Recommended Standards wholly or partly as National Standards.
- (d) Most countries believe that there is no need for further standardization. However, some countries proposed that the following tests might be standardized:
 - i. The light dynamic penetrometer
 - ii. A heavy dynamic penetrometer (weight of hammer about 200 kg)
 - iii. The field vane test.
- (e) The best way to promote the use of the Recommended Standards seems to be:
 - i. to use the Recommended Standards in research work
 - ii. to request the National societies not to accept papers for publication

where the results from penetration tests are included and no comparisons have been made with at least one of the recommended standard penetration tests

- iii. to encourage the National Societies to adopt the Recommended Standards as National Standards.
- (f) Most countries desired a second symposium on penetration testing. Some wanted it to be an international symposium.
- (g) All national societies which replied except one found it desirable to adopt the European Standards as International Standards. One society pointed out that this mainly concerns the societies outside of Europe.
- (h) In some countries comparisons have been made between the four recommended standard methods.

The Subcommittee met in Brighton in 1979 just before the 7th European Conference on Soil Mechanics and Foundation Engineering. The result of this meeting can be summarized as follows:

- i. The Subcommittee proposed no changes of the existing four Recommended Standards.
- ii. The Subcommittee proposed to add a Recommended Standard for Light Dynamic Probing.
- iii. The Subcommittee proposed that an international symposium on penetration testing should be held in 1982.*)
- iv. The Subcommittee found that it was desirable to adopt the Recommended Standards as International Standards.

The work of the Subcommittee after the Brighton meeting has mainly been by correspondence.

2. RECOMMENDATIONS OF THE SUBCOMMITTEE ON STANDARDIZED PENETRATION TESTING METHODS

The Subcommittee on Standardization of Penetration Testing in Europe likes to repeat its recommendation from the Tokyo meeting that "papers to international conferences or journals presenting results from penetration tests should also include results from at least one recommended standard penetration testing method".

The Subcommittee also recommends that comparisons between the different recommended standard testing methods should be made in different soils to facilitate the evaluation of soil characteristics from different penetration tests.

3. RECOMMENDED STANDARD PENETRATION TESTING METHODS

3.1 Previously recommended standards

Recommended Standards were adopted at the Tokyo Conference in 1977 for the following four methods:

- a. Cone penetration test (CPT)
- b. Dynamic probing test (DPA and DPB)
- c. Standard penetration test (SPT)
- d. Weight sounding test (WST)

Details of the Recommended Standards are given in Appendix A-D of the Subcommittee report to the Tokyo Conference. Those proposals also include recommendations for presentation of the test results.

3.2 Recommended standard for light dynamic probing test (DPL)

After the Tokyo Conference several countries proposed to standardize also the light dynamic penetrometer test since the light penetrometer is easy to handle and it is sensitive to changes in soil conditions even at small depths. Therefore a recommended standard has also been proposed for light dynamic probing, APPENDIX E. The new standard is in accordance with the German standard DIN 4094 and has been worked out by a working group with the following members: H Zweck (FRG), A Wambeke (Belgium) and G Stefanoff (Bulgaria). This Recommended Standard has been circulated among the members of the Subcommittee. It is recommended that the new Recommended Standard is approved by the Executive Committee at their meeting in June 1981 in Stockholm.

Respectfully submitted:

B Broms	Sweden (chairman)
F Baguelin	France
E de Beer	Belgium
W Heijnen	Netherlands
E Schultze	FRG
G Stefanoff	Bulgaria
S Thorburn	UK
Y Trofimenkov	USSR
H Zweck	FRG
U Bergdahl	Sweden (secretary)
H Zeindler	Switzerland

*) This meeting will be held in Amsterdam from 24th to 28th May 1982.

APPENDIX E

RECOMMENDED STANDARD FOR LIGHT DYNAMIC PROBING (DPL)

CONTENTS

1. SCOPE
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5. MEASUREMENTS
6. REPORTING OF THE RESULTS

1. SCOPE

Light dynamic probing can after calibration be used to get an indication of such engineering properties as e.g.

- relative density,
- consistency,
- compressibility and
- shear strength.

The results can also be used to evaluate the trafficability of soils. DPL normally gives reliable results down to a depth of about 8 m, depending on the specific soil conditions.

The advantages of the light dynamic probing method compared to dynamic probing DPA and DPB, published in the report of the "Sub-Committee on the Penetration Test for Use in Europe" in 1977, are the low weight and that the penetrometer is easy to handle. All operations can be done by hand.

2. DEFINITION

The dynamic probing with the light apparatus shall be referred as DPL. The first two letters stand for dynamic probing. The third letter stands for light and is used to distinguish this test method from the two heavier methods DPA and DPB.

During the dynamic probing, a rod with an enlarged point is driven down into the subsoil using a hammer with a constant height of fall. The penetration depth and the number of blows are measured. The dimensions of the DPL apparatus, the test procedures, the measurements and the recording of the results are given in the following chapters.

3. APPARATUS

3.1 Driving device

The driving device consists of the hammer, the anvil and the guide rod.

The mass of the hammer is 10 ± 0.1 kg. The ratio

of the length and the diameter of the cylindrical hammer shall be between 1 and 2. The hammer has an axial hole with a diameter, which is about 3 mm larger than the diameter of the guide rod.

The mass of the anvil and the guiding rod shall be about 5 to 10 kg.

The height of fall is 0.5 ± 0.01 m. The hammer shall fall freely.

3.2 Cone

The nominal area of the DPL cone is 10 cm^2 which corresponds to a diameter of 35.7 ± 0.3 mm. The apex angle of the cone tip is 90° . The tip of the cone can be cut 3 mm from the theoretical end of the cone.

Above the cone is a cylindrical part, with a length equal to the diameter of the cone (Fig. 1). Between the cylindrical part and the rod is a conical transition with a length equal to the diameter of the cone.

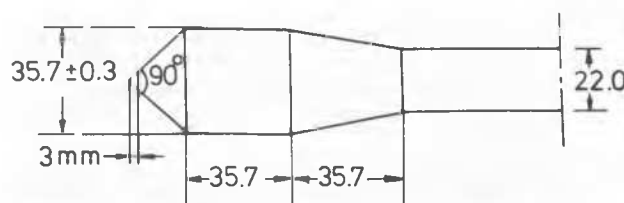


Fig. 1. Point and rod for light dynamic probing, DPL.

3.3 Rods

The diameter of the rod is 22 mm. Normally massive rods are used but also hollow rods are admitted to reduce the weight. The rods should be made of hard, but not brittle high quality steel. It shall have high resistance to wear and high strength at low temperatures.

The length of the extension rods shall be 1.00 ± 0.001 m. The rods shall be straight. The deviation from the straight axis should not exceed 0.4% the first five rods from the cone and 0.8% the following rods (>5 m).

4. TEST PROCEDURE

The penetrometer shall be continuously driven into the subsoil at a rate of 15 to 30 blows per minute. Necessary interruptions should be recorded and marked on the drawings showing the test results.

The rods should be driven vertically. During the first blows, the rods should be held by hand in order to prevent deviations from the vertical direction.

The driving rate has a minor influence on the results in pervious sands and gravels. Consequently the driving rate can be increased up to 60 blows per minute in such soils.

The couplings of the rods should always remain tight during the driving.

5. MEASUREMENTS

The number of blows should be recorded every 0.1 or 0.2 m, preferably every 0.1 m. In exceptional cases, when the penetration resistance is low, less than 1 blow/0.1 m, e.g. in soft clays, the penetration per blow can be recorded. In hard soils, where the penetration resistance is very high, the penetration for a certain number of blows can be recorded.

The blows per 0.1 m penetration can easily be measured by marking the rods every 0.1 m.

6. REPORTING OF THE RESULTS

The results are normally presented in a diagram with the depth along the vertical axis and the number of blows every 0.1 or 0.2 m penetration along the horizontal axis. Alternatively the energy per unit of volume of displaced soil can be shown as a function of the depth c.f. resistance values for the DPA and DPB tests.

The following information shall be given:

- location of the test,
- date of the test,
- number of the test,
- type of test,
- any interruption during the test,
- elevation of the ground surface and
- ground water level.

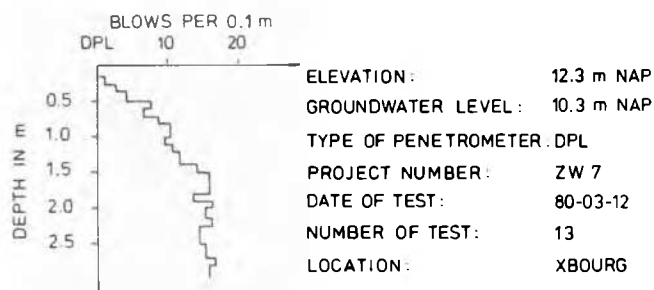


Fig. 2. Example. Penetration resistance at light dynamic probing.

ANNEXE E

NORME RECOMMANDEE POUR LE SONDAGE AU PENETROMETRE DYNAMIQUE LEGER (DPL)

CONTENU

1. OBJET
2. DEFINITION
3. APPAREILLAGE
 - 3.1 Equipement de battage
 - 3.2 Pointe
 - 3.3 Tiges
4. PROCEDURE D'ESSAI
5. MESURES
6. PRESENTATION DES RESULTATS

1. OBJET

Le sondage au pénétromètre dynamique léger peut, moyennant un étalonnage, être utilisé pour fournir des indications sur des propriétés telles que :

- densité relative,
- consistance,
- compressibilité et
- résistance au cisaillement.

Les résultats peuvent également servir à évaluer la trafficabilité des sols. DPL donne normalement des résultats fiables jusqu'à une profondeur d'environ 8 m, profondeur en fait variable selon les sites.

Les avantages du sondage au pénétromètre dynamique léger par rapport aux sondages au pénétromètre dynamique de type DPA et DPB, décrits dans le rapport du "Sous-Comité sur les Essais de Pénétration en Europe" en 1977, sont le faible poids et la facilité de manipulation, toutes les opérations étant manuelles.

2. DEFINITION

Le sondage au pénétromètre dynamique léger est désigné par le sigle DPL. Les deux premières lettres correspondent aux termes anglais: Dynamic Probing, comme pour les désignations DPA et DPB retenues pour les sondages réalisés avec les pénétromètres plus lourds; la lettre L (light = léger) permet de l'en distinguer.

Le sondage est réalisé avec une tige munie d'une pointe élargie et battue dans le sol à l'aide d'un mouton à hauteur de chute constante. On mesure la profondeur de pénétration et le nombre de coups. On traite ci-dessous les points suivants: dimensions de l'appareillage DPL, procédure d'essai, mesures, présentation des résultats.

3. APPAREILLAGE

3.1 Equipement de battage

Il comporte le mouton, l'enclume et la tige-guide.

Le mouton a une masse de $10 \pm 0,1$ kg. Il est cylindrique; le rapport de la longueur au diamètre doit être compris entre 1 et 2. Il comporte un évidement axial dont le diamètre excède d'environ 3 mm celui de la tige-guide.

La masse de l'enclume et de la tige-guide doit être de 5 ± 10 kg.

La chute du mouton doit être libre et sa hauteur de $0,5 \pm 0,01$ m.

3.2 Pointe

La section nominale de la pointe DPL est de 10 cm^2 , ce qui correspond à un diamètre de $35,7 \pm 0,3$ mm. Son angle au sommet est de 90° . L'extrémité de la pointe peut être tronquée de 3 mm, comptés à partir du sommet.

Une partie cylindrique prolonge la pointe, sur une longueur égale au diamètre de la pointe (Fig. 1), puis une partie conique fait la transition avec la tige, sur une longueur égale au diamètre de la pointe.

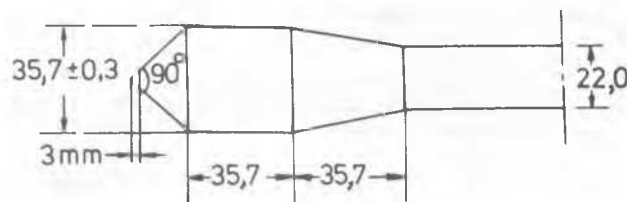


Fig. 1. Pointe et tige du sondage au pénétromètre dynamique léger (DPL).

3.3 Tiges

Le diamètre des tiges est de 22 mm. Normalement, on utilise des tiges pleines, mais on peut utiliser des tiges creuses, afin de réduire le poids. Les tiges doivent être de haute qualité en acier, dur, mais non fragile, de haute résistance au choc et de grande résistance à basse température.

La longueur des tiges doit être de $1,00 \pm 0,001$ m. Les tiges doivent être rectilignes. La tolérance sur la rectitude est de 0,4% pour les 5 premières tiges, comptées à partir du cône, et de 0,8% pour les suivantes (au-delà de 5 m).

4. PROCEDURE D'ESSAI

Le battage du pénétromètre doit être effectué en continu, à une cadence de 15 à 30 coups par minute. Toute interruption doit être notée sur la feuille d'essai.

Les tiges doivent être battues verticalement. On les guide à la main durant les premiers coups pour éviter les déviations par rapport

à la verticale.

La cadence de battage a une incidence faible sur les résultats dans les sables et graviers perméables. En conséquence, elle peut être portée à 60 coups par minute dans de tels sols.

L'assemblage des tiges doit rester sans jeu pendant le battage.

5. MESURES

On doit relever le nombre de coups tous les 0,1 ou 0,2 m, de préférence tous les 0,1 m. Exceptionnellement, on relève l'enfoncement pour un nombre de coups donné: soit que l'enfoncement par coup est supérieur à 0,1 m, cas par exemple des argiles molles; soit au contraire que la résistance à la pénétration est grande, cas des sols très raides.

Pour faciliter le relèvement du nombre de coups, on porte sur les tiges des marques à intervalles de 0,1 m.

6. PRESENTATION DES RESULTATS

La présentation des résultats se fait normalement sous la forme d'un graphique comportant la profondeur sur l'axe vertical et le nombre de coups pour une pénétration de 0,1 m ou 0,2 m sur l'axe horizontal. Une variante consiste à porter l'énergie de battage rapportée au volume unité de sol déplacé, en fonction de la profondeur (cf. les valeurs de résistance introduites pour les essais DPA et DPB).

Les informations suivantes doivent figurer:

- situation du sondage,
- date du sondage,
- numéro du sondage,
- type de sondage,
- interruptions en cours de battage,
- cote du terrain naturel (T.N.) et
- cote de la nappe.

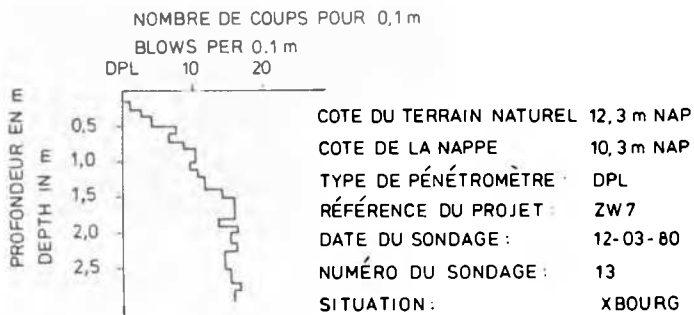


Fig. 2. Exemple de graphique de résultats d'un sondage au pénétromètre dynamique léger (DPL).

A P P E N D I X XIII
REPORT OF THE SUB-COMMITTEE
ON RESEARCH CO-OPERATION

BY THE CHAIRMAN, PROF. F. MARTINEZ

FORMATION

At the Executive Committee Meeting held in Oaxaca, México, 1979.

TERMS OF REFERENCE

(i) To survey programmes of Soil Mechanics research where co-operation might usefully take place between establishments in the more and the less technologically advanced National Societies.

(ii) To endeavour to initiate such co-operation between appropriate pairs of establishments and to monitor progress.

Two main ideas are added to those contained in the Terms of Reference.

The first one is that the ISSMFE, acting in the field of international cooperation, takes its place, in a line of action coincident with the actual and, no doubt, future tendency to establish and maintain international relations between the more and the less developed countries for their mutual benefit. Statesmen from all over the world agree that this approach is the most important social challenge of our times.

Naturally, our society works towards this end within the limits of our own field of action, in the development of Soil Mechanics and Foundation Engineering.

Working through our Research Cooperation Committee, our Society is initiating the establishment of new relations of interchange of our technology. This will result in an improvement of development levels and a better knowledge and understanding between men of different nations who dedicate their professional life to the practice of this specialized technology.

The establishment of new structures in international relations between the more and the less developed countries is one of the most important commitments for the future of humanity. In our own field, we are contributing towards that end in parallel with scholars, scientific groups and religious communities of the world.

The second idea is that an international society formed by 53 countries and almost 14.000 members, almost all of them university professionals, and many university professors, has the possibilities of developing activities in the international field. Because of its aims and strength, it should be in conditions to get support from institutions of international or regional character such as UNESCO, UNCTAD and similar organizations.

ACTIVITIES

Our first task was to obtain from the National Societies interested in the subject the nomination of their representatives into the Sub-Committee. This work, done mainly by correspondence, necessarily took time. The effort made by our Secretary General, the late Prof. Kevin Nash was of great value. At the present time, most of the areas of the world being represented in the Committee, we consider our first task fundamentally finished. We remain always open to receive members of other countries.

The importance given by the National Societies to the future activities of the Committee remain expressed by the high level of the persons which they selected to represent them. Their names are: Prof. O.G. Ingles (Australia) Dr. N.J. Eden (Canada), Prof. F. Martínez (Chile), Prof. Zhou Jing (China), Dr. J. Feda (Czechoslovakia), Prof. N. Krebs Ovesen (Denmark), Ing. J. Nuques (Ecuador), Mr. E. Colas des Francs (France), Prof. G. Petrasovits (Hungary), Prof. G. Ranjan (India), Prof. G.J. Zeitlen (Israel), Dr. R. Nova (Italy), Mr. H. Mori (Japan), Prof. G. Auvinet (Mexico), Dr. P.O. Igharo (Nigeria), Dr. K. Hoeg (Norway), Prof. A. Carrillo-Gil (Perú), Prof. B. Bros (Poland), Prof. J.A. Jiménez Salas (España), Dr. J. Hartlen (Sweden), Dr. F. Bucher (Switzerland), Prof. T.H. Hanne (England), Dr. V. Drnevich (USA), Dr. Fedorov B.S. (USSR) and Prof. W.R. Mackechnie (Zimbabwe).

An interesting consequence of the creation of the Committee, and of the divulgence of its aims, has been the fact that countries where the idea of research being done in co-operation with establishments of other countries of different technological level had never been considered possible before, have asked with enthusiasm for their incorporation in the Committee.

The Committee has recently started three new tasks.

For an efficient and easy development of the future activities, it seems convenient to organize the members by geographic areas. One member of each area would act as its head. And he will keep in direct contact with the Chairman. A tentative organization scheme has been proposed. The division by geographic areas does not mean that the cooperative research will be developed only between establishments located in the same area. The idea is that establishments of countries of all areas will do co-operative research with those of all other countries of the world, without any reference to the geographic areas to which they belong.

A survey of the establishments (universities, institutions, etc.) existing in his own country and considered adequate to participate in co-operation research has been asked to be provided by each member. Also, information on the local phenomena of interest in his country (seismicity, zones of expansive clays, zones of unstable soils, etc.)

The members have been asked also for information on the programmes of soil mechanics research that are being organized in their countries, in which co-operation might be useful with establishments of countries of different technological level.

As it has been explained, to develop the new tasks the Chairman has asked for the cooperation of the members. Interesting opinions have been received from Dr. J. Fedá, Mr. W.J.E. Eden, Prof. B. Bros, Mr. H. Mori and Dr. R. Nova. The enthusiasm shown by the members through their contributions, insures an active and prosperous future for the program of international cooperation for which the Committee was created.

As encouraging factors, it is mentioned that our President Prof. M. Fukuoka has reported that based on the founding spirit of the Committee, he has: a) Lectured in different countries: Canada, Taiwan, Thailand, Hong Kong, Indonesia, China, Japan, b) Participated in the program "International Scientific Project-Protection of the Lithosphere as a Component for the Environment, UNESCO, UNEP, USSR", 1980, and as head of the Damage Investigation Committee to the November 23rd Earthquake in Italy, 1981, c) With Prof. K. Ishihara, have been granted by the Japanese Government a scholarship for a South American Professor on Soil Mechanics to study in Japan for some months. The Vice-President for North America, Prof. G. Sowers, has reported that based on the same spirit of the Committee has lectured in Guatemala (1978), Honduras (1978 y 1980), Costa Rica (1980) and Panamá (1978).

THE FUTURE

In a letter to all the members of the Committee, it was proposed to take advantage of the Tenth International Conference in order to have a meeting devoted to study the answers, suggestions and contributions received regarding the three new tasks started, and to agree on the future

steps that should be given.

After that proposition was made, the writer has been considering a subject that has come to his mind several times during the two years that he has been working for the Committee.

The idea is that, in his opinion, the Chairman of a Committee of co-operative international research ought to be a person who lives in a country located close to the areas of the world where most of the research activities are taking place. Or, perhaps, in a geographic point located in an area occupying a place more or less equidistant between the more and the less technological advanced countries. This could mean or represent many opportunities of meetings to take place when members of the Committee would attend conferences, simposia, lectures, etc. My country, Chile, is not in such favorable location. Geographically, it is located at an extreme.

After a careful consideration of this fact, and in view of my interest in the success of the international cooperation that I myself proposed in Mexico in 1979, I feel ethically obliged to present my resignation to the Chairmanship of the Committee.

I do it with deep regret. I thank to the President of the ISSMFE and each member of the Committee for his efforts and support. I hope the future activities will be of great success for the progress of Soil Mechanics and Foundation Engineering and for a better knowledge among people of different nations.

FERNANDO MARTINEZ

REPORT OF THE SUB-COMMITTEE ON
SITE INVESTIGATION

Prepared by the Chairman, Dr. S.D.Wilson and
the Secretary, Mr. S.Ohya

1. TERMS OF REFERENCE

To collect information from National Societies concerning their current practice in Planning and Carrying Out Site Investigations and to produce a Site Investigation Manual.

2. ACTIVITIES OF THE SUB-COMMITTEE

The sub-committee has the following members and advisors:

members

S.D.Wilson (Chairman)	U.S.A.
S.Ohya (Secretary)	Japan
L.G.Mariupolsky	U.S.S.R.
U.B.Bergdahl	Sweden
A.Andresen	Norway
H.Sommer	W.Germany
E.Lousberg	Belgium
A.C.Meigh	U.K.
S.Marchetti	Italy
G.Ranjan	India
Z.C.Moh	S.E.Asia
R.N.Chowdhury	Australia
G.G.Meyerhof	Canada
D.H.Cornforth	U.S.A.
S.J.Trevisan	Argentina

advisors

W.Wolski	Poland
M.Maugeri	Italy
Y.O.Berdugo	Nigeria
E.W.Brand	S.E.Asia
M.L.Silver	U.S.A.

The sub-committee held the following meetings:

Singapore Meeting,
Date: 25th August, 1979
Main topics: Preliminary discussion on the
Site Investigation Manual

Brighton Meeting,
Date: September, 1979
Main topics: Contents of the Site Investi-
gation Manual

London Meeting,
Date: 30th September, 1980
Main topics: Contributors and reviewers
for the Site Investigation
Manual

After the establishment of the sub-committee, in 1978, the sub-committee began soliciting information from all countries on current practices in the planning and carrying out of site investigations.

Because environmental conditions vary with different countries, preparation of a site investigation manual that would be useful everywhere is a very difficult task. The following outline of the proposed manual is the product of careful consideration of this problem:

Part I. General Description.

Part II. Case Histories of the planning and carrying out of site investigation from the standpoint of 21 selected problem areas.

Part III. Current Practice on the planning and carrying out of Site Investigation in various Countries.

The sub-committee investigated the current practice of site investigations by sending questionnaires to the members and/or selected national societies of 32 countries in December, 1979. 26 completed questionnaires from 24 countries have been received, as listed below:

<u>Country</u>	<u>Contributor</u>
ARGENTINA	<u>S.J.Trevisan</u>
AUSTRALIA	<u>R.Chowdhury</u>
BELGIUM	P.T.Huergo
CANADA	W.J.Eden
FINLAND	H.Maekela
FRANCE	Y.Lebeque
F.R.G.	P.v.Soos
GREECE	P.N.Vettas
INDIA	<u>G.Ranjan</u>
ITALY	Working Group, A.G.I.
JAPAN	Sub-committee of site invest.
MOROCCO	Mariotti
NIGERIA	<u>Y.O.Berdugo</u>
NORWAY	<u>A.Andresen</u>
SOUTH AFRICA	F.v.M.Wagener, G.A.Jones
S.E.ASIA	
HONG KONG	P.Lumb
HONG KONG	<u>E.W.Brand</u> , H.B.Phillipson
MALAYSIA	W.H.Ting
PHILIPPINES	S.F.Remes
SINGAPORE	J.Yong
THAILAND	R.Srilenawat
THAILAND	V.Monsli

SWEDEN
U.K.
U.S.A.

U. Bergdahl
A. C. Meigh
D. H. Cornforth

These questionnaires were examined, compiled, and the information contained in them is quoted in the Part I, to provide recommendations for site investigation guidelines.

Next, the 21 topics listed below will be covered in the manual in the form of Case Histories that provide specific examples of how planning and investigations deal with various kinds of structures, problem areas, etc. These actual Case Histories will be a main part of the Manual.

1. Heavy structures constructed on rock
2. Highway route studies
3. Landslides
4. Pipelines
5. Soft ground tunnels
6. Rock tunnels
7. Structures constructed in rock
8. Nuclear power plants
9. Deep open excavations
10. Machine foundations
11. Building foundations
12. Bridge foundations
13. Tank foundations on soft ground
14. Embankments on soft ground
15. Airfield pavements
16. Waterfront structures
17. Liquefaction studies
18. Embankment dams
19. Construction materials sources
20. Soil with unusual properties
21. Off-shore structures foundations

The national societies of countries develop site investigation techniques in accordance with the geological environment of its native civil engineering practice. In order to grasp the state of technology in a certain country, that country's background must be taken into account. Thus, Part III of the Manual will be based on reports on current practice in site investigations prepared by each participating National Society.

The above outline of the site investigation manual does not represent a proposal for standardization of each of the investigation methods. The Site Investigation Manual project was founded as a means of providing a reference guide to the basic approaches that exist on the planning and execution of site investigations.

In studying the complete questionnaires we received, it became clear that ground conditions based on the geological history of each country are quite different, and, as a consequence, site investigation methods vary in accordance with these varying ground conditions. Indeed, in order to carry out a site investigation properly, it is necessary to first draw up a plan aimed at bringing to light the special problems posed by the unique nature of the ground being investigated. Once the characteristics of the ground, as considered from the standpoint of soil mechanics are grasped, then the investigation results can be incorporated into design planning. Thus, site investigations are by their nature procedures that greatly depend on local conditions.

It is of course well known that problems being faced today in the field of soil mechanics cannot be solved by theory alone, but that the judgement of well experienced engineers is essential. However, it should be emphasized that in the area of the planning of site investigations as well, the seasoned judgement of engineers familiar with the geotechnical characteristics of the particular ground to be investigated is equally indispensable.

Thus, this manual, which is a compilation of case studies on 21 selected topics, providing details and explanations by professionals in each area, the first such attempt in the field, represents a major contribution to the art.

It should be pointed out that asking the most experienced specialists in each field to prepare a manuscript within a certain deadline is not the easiest thing in the world.

Another point: For each topic, it would be well to solicit the viewpoint of more than one specialist from a region with differing geological conditions. Consequently, it is our intention to ask specialists on each of the topics to review the respective main contributions, and provide supplementary comments representing the standpoint of a country with a different environment. To give an example, the main contributors on the subject of building foundations might come from a country in which earthquakes are not a major factor. In that case, additional comments would be solicited from a professional who deals with an environment in which earthquakes are common.

In order to deal with these and other problems, we have found that it will require more time than initially planned to collect all papers on each topic. It is now expected that the publication of the manual will be sometime between the end of 1981 and the spring of 1982.

Copyrights to the manual will be held by the International Society of Soil Mechanics and Foundation Engineering. It will be printed in Japan and will consist of approximately 500 pages of A4 size.

PROPOSED FUTURE ACTIVITIES OF THE SUB-COMMITTEE

1. It is expected that the Site Investigation Manual will be published by the spring of 1982. We anticipate a strong demand for copies of the manual. Indeed, the ISSMFE should be thinking of proceeds from the manual as a source of funds for its activities, and should therefore see that it is well publicized.

Thus, we have before us the task of joining with the Secretariat of the ISSMFE to publicize the manual and asking each national society to promote its sales. Consequently, at the very least, our subcommittee's activities should continue long enough to achieve this task.

2. Site investigations have as their objective ground that may be composed of anything from rock to soft clay. The art of conducting site investigations draws deeply from engineering geology, soil mechanics, rock mechanics, ground water hydrology, as well as environmental and

earthquake engineering. Thus, in the interests of mutual exchange of technology, the centralization of information resources and the elucidation of problem areas, international cooperation is a most rewarding activity.

However, on a less optimistic note, it must be frankly recognized that the problems involved are immense.

The European Symposium on Penetrating Testing, held in 1974 in Stockholm, has made it clear that, although the standard penetration test and the cone penetration test had been supposed to be well established, when it came to the proposal for international standards, many, many problems were discovered to exist. The European Subcommittee on Penetration Testing has clearly devoted considerable effort dealing with these problems.

It is well worth considering the advantages that could be gained by selecting a number of investigation methods currently in the development stage, gather information concerning these methods from a number of countries for the purpose of gaining an international perspective on future trends for the purpose of eventually proposing international standards. Three possible candidates are:

- (1) pressure-meter testing
- (2) in-situ horizontal stress measurement
- (3) in-situ S-wave velocity measurement

Presently, the pressure-meter is extensively used in France and Japan. Although the same can not be said for other countries, it has a very good chance of gaining popularity for determining in-situ deformation and strength characteristics. At the present, there are many unanswered questions concerning the best use of this instrument. Which is more appropriate, strain control or stress control? Quick test or slow test? What differences are involved with self boring and preboring? etc. Because the pressure-meter has a wide range of applications, it is hoped that these problems will be dealt with in the near future.

In the field of in-situ K_0 measurements, with the coming into widespread use of the Finite Element Method, the need for methods of determining soil parameters has come to be realized, and a number of such methods are being developed. At present, research is being carried out on the hydraulic fracturing, the total pressure cell method and the pressure-meter method. Measurement of stress within the ground requires a high level of technology. It is to be hoped that the future will see systemization of general investigation or measuring procedures in which the limit to each test method and special considerations for each are made clear.

In-situ S wave velocity measurement methods represent the recent rapid strides made in soil dynamics and earthquake engineering. It is possible to carry out measurements using both cross-hole and down-hole methods and other newly developed methods. In this regard, it would be desirable to have a reliable source of information on the advantages of each of these methods, which would serve as a guide to standard procedures in carrying out measurements.

The above three items are only examples of problems that call for attention and research. As geotechnical engineering makes advances, new demands for site investigation techniques will inevitably be created.

It would be desirable for the Sub-Committee to continue its activities under the following Terms of Reference:

To collect information on newly developed or investigation methods underdevelopment that show promise of wide international application in the future, to review the present state of the art, to consider current problems, and to recommend trends for future studies.

Depuis le précédent Congrès International de la Société, tenu à Tokyo en 1977, l'activité du sous-comité s'est développée dans deux domaines :

- 1) la préparation de la 4e édition du Lexique en huit langues ;
- 2) la participation aux réunions de coordination avec la Société Internationale de Mécanique des Roches (SIMR) et l'Association Internationale de Géologie de l'Ingénieur (AIGI) sur les Symboles, Unités et Définitions.

La composition du sous-comité est la suivante :

MM.	BAGUELIN	Président
	COLOMBO	
	FOLQUE	
	HABIB	
	HUTCHINSON	
	JOHNSON	
	JURGENSON	
	JUSTO	
	MORTON	
	SANDEGREN	
	SCHULTZE	
	TER-STEPANIAN	
	WOLSKI	

1. 4e édition du Lexique en huit langues

Comme l'édition précédente (1967), ce document comprend deux parties distinctes :

- le lexique proprement dit,
- la liste des symboles avec leurs définitions et unités.

C'est la liste approuvée en 1977 à Tokyo par le Comité Exécutif (cf. Comptes Rendus du 9e Congrès - Vol.3 pp. 157-170) qui sera incorporée dans ce document.

La mise au point du Lexique proprement dit a été menée à bien par :

. un groupe de synthèse et de préparation du manuscrit : à l'origine, M. J. MORTON (Canada) réalisait ce travail ; il a reçu depuis 1979 l'appui de la Société Géotechnique Canadienne, et notamment le concours de M. ADAMS, d'Ontario Hydro.

. des membres correspondants pour chacune des langues -autres que la langue de base qui est l'anglais-, à savoir : MM. P. COLOMBO (italien), J. FOLQUE (portugais), P. HABIB (français), L. JURGENSON (russe), J.L. JUSTO (espagnol), E. SANDEGREN (suédois), E. SCHULTZE (allemand).

A ce jour, la préparation du manuscrit est achevée et le document devrait être sorti d'ici le Congrès de STOCKHOLM.

Since the last International Conference of the Society, held in Tokyo in 1977, the activities of the Subcommittee has developed in two areas :

1. preparation of the 4th edition of the 8-language Lexicon,
2. participation to the co-ordinating meetings with the International Society of Rock Mechanics (ISRM) and the International Association of Engineering Geology (IAEG) on Symbols, Units and Definitions.

The list of the members of the Subcommittee is as follows :

MM.	BAGUELIN	Chairman
	COLOMBO	
	FOLQUE	
	HABIB	
	HUTCHINSON	
	JOHNSON	
	JURGENSON	
	JUSTO	
	MORTON	
	SANDEGREN	
	SCHULTZE	
	TER-STEPANIAN	
	WOLSKI	

1. 4th edition of the 8-language Lexicon

Like the previous edition (1967), this book will have two parts :

- the lexicon itself,
- the list of symbols with their definitions and units.

In fact, the latter will be the list approved in Tokyo in 1977 (cf. Proc. 9th Conference - Vol.3, pp. 157-170).

The preparation of the lexicon itself has been carried out by :

. a group for synthesis and manuscript preparation : at the origin, this work was done by Mr J. MORTON (Canada) alone ; since 1979, he has received the assistance of the Canadian Geotechnical Society, and particularly of Mr. ADAMS of Ontario Hydro.

. corresponding members for each of the languages other than English (which is the basic language for this lexicon), ie. : MM. P. COLOMBO (Italian), J. FOLQUE (Portuguese), P. HABIB (French), L. JURGENSON (Russian), J.L. JUSTO (Spanish), E. SANDEGREN (Swedish), E. SCHULTZE (German).

To date, the manuscript is completed and the book should be issued for the Stockholm Conference.

Il faut souligner l'importance de ce travail, qui a requis des efforts parfois considérables des personnes impliquées dans sa réalisation, et aussi le support financier d'organismes canadiens (Conseil National de la Recherche Scientifique et Ontario Hydro), venant en sus du financement de notre Société.

2. Participation aux réunions de coordination avec la Société Internationale de Mécanique des Roches et l'Association Internationale de Géologie de l'Ingénieur

Cette coordination entre les 3 Sociétés : SIMSTF, SIMR et AIGI, est organisée par le Secrétariat Permanent de Coordination, présidé par M. DE BEER.

Pour la SIMSTF, la liaison est assurée par MM. BAGUELIN, SANDEGREN et TER-STEPANIAN.

Deux réunions ont eu lieu, la première à Madrid le 7 septembre 1978, la deuxième à Montreux le 4 septembre 1979, à l'occasion respectivement du 3e Congrès de l'AIGI et du 4e Congrès de la SIMR.

La première réunion a permis de recenser les documents existants ou les travaux en cours dans chaque Société et qui étaient :

- pour la SIMSTF :

- . liste des symboles, unités et définitions approuvée à Tokyo (1977) ;
- . lexique en 8 langues en cours de préparation (état très avancé).

- pour la SIMR :

- . liste de symboles publiée en 1970 ;
- . liste de symboles et de définitions (250) publiée en 1975.

- pour l'AIGI :

- . un lexique est en cours de préparation (phase de démarrage).

La deuxième réunion avait été préparée par l'établissement des points communs et des différences entre les listes de symboles, ainsi qu'entre les listes de définitions données dans les divers lexiques ou projets. Au cours de la réunion, furent examinés les rapprochements souhaitables pour les symboles et définitions ; ceci concernait surtout les documents de la SIMSTF et de la SIMR, car les travaux de l'AIGI n'étaient pas suffisamment avancés et en outre, le document projeté semble assez différent dans son esprit de ceux déjà élaborés par les 2 autres Sociétés.

Ces travaux de coordination, bien que délicats, demandent à être poursuivis.

The importance of the work achieved should be pointed out ; it required often a great deal of efforts from the individuals involved as well as a financial support of Canadian organizations (National Research Council and Ontario Hydro), which added to the money allocated by our Society.

2. Participation to co-ordinating meetings with the International Society of Rock Mechanics and the International Association of Engineering Geology

This coordination between the 3 Societies : ISSMFE, ISRM and IAEG is organized by the Permanent Co-ordinating Secretariat, whose President is Mr DE BEER.

MM. BAGUELIN, SANDEGREN and TER-STEPANIAN are the correspondents for ISSMFE.

Two meetings have been held, the first one in Madrid on September 7-78, the second one in Montreux on September 4-79, respectively during the 3rd IAEG Conference and the 4th ISRM Conference.

During the first meeting, the existing documents or the work in progress in each Society were recognized. They were :

- for ISSMFE :

- . the list of symbols, units and definitions approved in Tokyo (1977) ;
- . the 8-language lexicon in preparation (at a very advanced stage).

- for ISRM :

- . the list of symbols published in 1970 ;
- . the list of symbols and definitions (250) published in 1975.

- for IAEG :

- . a lexicon was being prepared but was at a very early stage.

For the second meeting, the points in common and the differences between the lists of symbols as well as between the lists of definitions as given in the various lexicons or drafts were carefully established. Thus, during the meeting, the points for which the positions could come closer could be appraised : this concerned mainly the symbols and definitions contained in the books of ISSMFE and ISRM, since the work of IAEG was not yet enough advanced, and besides, the content of the document contemplated by IAEG seemed somewhat different of those already produced by the 2 other Societies.

It seems necessary, however, that this co-ordinating work, although difficult, should be continued.

F. BAGUELIN
Président

F. BAGUELIN
Chairman

APPENDIX XVI

REPORT OF THE SUB-COMMITTEE ON SOIL SAMPLING BY THE CHAIRMAN, MR H. MORI

TERMS OF REFERENCE

To collect information from National Societies about their current practice in soil sampling and to produce a Manual of Soil Sampling for various types of soil.

METHOD OF WORKING

The sub-committee has the following members and advisors:

<u>members</u>			<u>advisors</u>	
H. Mori	(Chairman)	Japan	H.R. Al-Alusi	Iraq
K. Adachi	(Secretary)	Japan	H.K.S.Ph. Begemann	Netherlands
R.K. Bhandari		India	E. Botea	Romania
R.P. Brenner		Southeast Asia	E.E. Alonso	Spain
B.A. Kantey		South Africa	K.R. Datye	India
M. Kany		West Germany	R.D. Holtz	U.S.A.
E.H. de Leeuw		Netherlands	D. Milović	Yugoslavia
S. Amar		France	J.O. Osterberg	U.S.A.
M.V. Malyshev		U.S.S.R.	D. Resendiz	Mexico
W.F. Marcuson III		U.S.A.	O.K.H. Steffen	South Africa
K. Schjetne		Norway	A. Tejchman	Poland
R. Tadanier		Australia	C. Viggiani	Italy
B.B. Broms		Sweden	Z.C. Moh	Southeast Asia
K.W. Cole		U.K.	T. Hvam	Denmark
M. Jamiolkowski		Italy	T. Okumura	Japan
F. Tavenas		Canada	W.M. Kirkpatrick	U.K.
M. Tammirinne		Finland		

The sub-committee held the following meetings:

<u>Place of sub-committee meeting</u>	<u>Date</u>	<u>Main topics</u>
Chicago, Illinois, U.S.A.	21st October, 1978	Preliminary discussion on the sampling manual and International Symposium on Soil Sampling
Singapore	29th July, 1979	Contents of sampling manual; questionnaire on sampling of soft cohesive soils
Delft, Netherlands	4th and 6th October, 1980	Discussion on the 2nd draft of manual

The sub-committee organized the International Symposium of Soil Sampling, held in Singapore on July 28, 1979. The state of the art reports prepared by the members, advisors, and the authors recommended by the members were presented and discussed at the symposium. The sub-committee and 283 participants were honored with opening addresses by Professor Masami Fukuoka, President of the ISSMFE, and by Professor J.K. T.L. Nash, Secretary General of the ISSMFE.

The symposium was divided into 3 sessions : Session 1, Sampling of Clayey Soils; Session 2, Sampling of Sandy Soils; and Session 3, Special Sampling Techniques for Gravels, Residual Soils, Weathered Rocks and Marine Deposits. The Chairman and the panelists of each session were as follows :

Session 1

Chairman:	W.F. Marcuson III	U.S.A.
Panelists:	K. Adachi	Japan
	R.P. Brenner	Southeast Asia
	E.H. de Leeuw	Netherlands
	J.O. Osterberg	U.S.A.
	W.M. Kirkpatrick	U.K.
	Z.C. Moh	Southeast Asia
	T. Okumura	Japan
	F. Tavenas	Canada

Session 2

Chairman:	D. Mohan	India
Panelists:	W.F. Marcuson III	U.S.A.
	K.R. Datye	India
	H. Mori	Japan
	K.W. Cole	U.K.
	Y. Yoshimi	Japan

Session 3

Chairman:	R.P. Brenner	Southeast Asia
Panelists:	J.A. Focht	U.S.A.
	R. Tadanier	Australia
	E.E. Alonso	Spain
	Y.C. Chiang	Southeast Asia
	M. Kany	West Germany
	O. Eide	Norway

The sub-committee acknowledges with gratitude the cooperative efforts of the Organizing Committee of the 6th Asian Regional Conference. The proceedings of the symposium, entitled, "State of the Art on Current Practice of Soil Sampling" edited by the sub-committee and printed by the Japanese Society of Soil Mechanics and Foundation Engineering have been published. The proceedings yield useful information on the current practices of soil sampling in a variety of countries, which are applicable to practical problems in soil mechanics. References for future research on soil sampling are contained in the proceedings.

THE CURRENT PRACTICE OF SAMPLING OF SOFT COHESIVE SOILS

The sub-committee investigated the current practice of sampling of soft cohesive soils by

sending questionnaires to the members and/or advisors of twenty three (23) countries in September, 1979. Table 1 lists the standards or codes of practice followed in the twenty countries whose citizens replied to the inquiry. In these countries, 8,349 members of the ISSMFE were residing as of February 1, 1979, which was about 71 percent of the total membership at the time.

The replies were statistically analyzed based on the assumption that each reply represented the practice of all ISSMFE geotechnical engineers in the replier's country. For example, one response from a member whose national society has 300 members was assumed equivalent to a response of 300 frequencies.

The questions were classified into three groups:

- (1) questions with two responses, i.e. "yes" or "no"
- (2) questions with three responses, i.e. "commonly used", "used, but not commonly", and "not used". These usages were ranked as follows:
Rank 3 : commonly used
Rank 2 : used, but not commonly
Rank 1 : not used
- (3) questions with continuously variable responses, such as the diameter of sampling tubes. The continuously variable responses were divided into scores, and the frequency of each score was calculated.

From the rank defined in the item (2), the average rank was calculated by the equation:

$$K_{av} = \frac{\sum K_i N_i}{\sum N_i} \quad (i = 1, 2, \text{or } 3) \quad (1)$$

where K_{av} : average rank

N_i : number of ISSMFE members assumed to give a response ranked 1, 2, or 3

K_i : rank, 1, 2, or 3

A certain instrument or a procedure having an average rank higher than 2 can be assumed to be commonly used. An average rank of not greater than 2 means the use of the technique is not common. An average rank close to unity means that the technique is used in only a limited number of countries.

The proportion of a response within a continuously variable range (group 3 response) was calculated by dividing the frequency of its score by the total population of Society members in the 20 countries represented, or 8,349. But, some repliers to group 1 questions gave more than one answer, e.g. some cited both recovery ratio and laboratory results as means of evaluating the quality of samples. Some repliers to group 3 questions spread over more than one score, e.g. one answer cited sample diameters from 50 to 100 mm, a range which includes over three scores (see Table 13). The proportion of such an answer was calculated by dividing the frequency of the answer by the total number of answers, instead of by the total population.

Results of Analysis of the Replies: The results of analysis are shown in the following tables:

Table 1. Standard or Code of Practice on Soil Sampling

COUNTRY	STANDARD OR CODE OF PRACTICE ON SOIL SAMPLING
AUSTRALIA	1) Standard Association of Australia (S.A.A.) Site Investigation Code, Sydney, 1975
CANADA	Canadian Manual on Foundation Engineering
DENMARK	_____
FINLAND	1) Code of Practice for Site Investigations of Houses 2) Code of Practice for Site Investigations in Community Planning 3) Manual for Soil Sampling
FRANCE	_____
INDIA	1) IS : 2132-1972 Code of Practice for Thin-Walled Tube Sampling of Soils 2) IS : 8763-1978 Guide for Undisturbed Sampling of Sands
IRAQ	_____
ISRAEL	_____
ITALY	1) AGI (Associazione Geotecnica Italiana) : RACCOMANDAZIONI SULLA PROGRAMMAZIONE ED ESECUZIONE DELLE INDAGINI GEOTECNICHE, GIUGNO 1977. In English : Recommendations on Planning and Performing of Geotechnical Site Investigations, June, 1977
JAPAN	1) Draft Standard of the Japanese Soc. S.M.F.E., "Method to take undisturbed samples using a thin wall sampler with stationary piston", by H. Mori, Proc., 9 ICSMFE, Vol. 3, pp.49-52 (1977) 2) Sampling Manual (in Japanese)
MEXICO	1) Exploracion y Muestreo de Suelos Norma 2.214 05 (2 partes) Petroleos Mexicanos
NORWAY	_____
POLAND	1) Polish Standard PN-741B-04452
S.E. ASIA	1) Korea : Korea Standard (KS) F 2317 (Similar to ASTM) 2) Malaysia : Standard Public Works Department Specification for Site Inv. (for PWD only)
SWEDEN	1) SGI MED #6 2) SGI PROC. #119 3) Proc. SGT No. 19 and Med. No. 6
U.K.	1) Code of Practice CP 2001 gives guidance. 2) AGIS Specification, section S. 3 gives guidance.
U.S.A.	Soil Sampling manual EM 1110-2-1907 forwarded earlier.
U.S.S.R.	1) Chapter SNiP II-9-78 "Engineering Investigations in the Construction, Main positions", 2) The state standard 12071-72 "Soils, sampling, packing, transportation and storage of the samples"
YUGOSLAVIA	_____
F.R.G.	DIN 4021 for sampling in general

1. Planning of Boring and Sampling

Table 2. Type of Sampling

item	average rank
Thin-walled fixed piston	2.6
Free-piston	1.6
Open-drive	2.2
Foil sampler	1.6
Begemann sampler	1.1
Composite sampler	1.2

Table 3. Ratio between probing (including vane test) and boreholes for sampling

(a) Preliminary investigation

scores (m)	proportions (%)
> 10	21
5 - 9	32
1 - 4	27
< 1	16
variable	4

(b) Detail investigation

scores (m)	proportions (%)
> 10	2
5 - 9	33
1 - 4	48
< 1	13
variable	4

Table 4. Interval of samples for each borehole

scores (m)	proportions (%)
1 - 1.5	40
1.6 - 3	22
> 3	8
variable	30

2. Undisturbed Sampling in a Borehole

Table 5. Boring methods

item	average rank
rotary	2.6
percussion	1.6
flight auger	1.3
others	1.8

Table 6. Stabilization of borehole

item	average rank	
	below water table	above G.W.T.
casing pipe	2.6	2.7
drilling mud	2.5	1.0
others	1.0	1.7

Table 7. Casing pipes

(a) Diameter

scores (mm)	proportions (%)
70 - 99	30
100 - 200	59
> 200	9
no answer	2

(b) Method to advance casing pipes

item	average rank
jacking	1.4
hammering	2.3
drilling	2.6

(c) Casing required opposing to the use of mud

responses	proportions (%)
Yes	70
No	30

Table 8. Water level in a borehole

responses	proportions(%)
water level required constant	75
not required	25

Table 9. Cleaning of borehole

responses	proportions(%)	
	general	before using a piston sampler
required	84	50
not required	16	50

Table 10. Cleaning methods

item	proportions(%)
mud bailer	11
cleaning auger	23
drilling fluid	47
others	19

Table 11. Use of thin-walled piston samplers

responses	proportions(%)
ever use	95
never use	5

Table 12. Undisturbed samples taken by thin-walled piston samplers

(a) by fixed piston samplers

scores(%)	proportions(%)
80 - 100	71
50 - 79	9
< 50	7
no answer	13

Remarks : the scores indicate percentage of samples taken by fixed piston samplers to total undisturbed samples

(b) by free piston samplers

scores(%)	proportions(%)
5 - 10	44
6 - 10	11
> 10	1
no answer	44

Table 13. Common diameter of thin-walled samplers

scores(m)	proportions(%)	remarks
< 50	3	Scandinavia
50 - 60	12	
61 - 80	33	
81 - 100	29	
> 100	19	127 mm in U.S.A.
no answer	4	

Table 14. Smallest diameter acceptable

scores(mm)	proportions(%)	remarks
< 50	7	40 mm in Norway and India ; 16 mm in Australia
50 - 60	48	
61 - 80	27	
81 - 100	12	
no answer	6	

Table 15. Common thickness of sampling tubes

scores (mm)	proportions(%)
< 2	32
2 - 3	53
> 3	10
no answer	5

Table 16. Largest area ratio acceptable

scores(%)	proportions(%)
< 10	1
10 - 12	51
13 - 15	29
> 15	6
no answer	13

Table 17. Maximum edge angle

responses	proportions (%)	remarks
maximum edge angle required	66	$\leq 10^\circ$ in Japan, Norway, Poland, Sweden, U.S.A.
not required	34	$> 10^\circ$ in Australia, France, Yugoslavia

Table 18. Common inside clearance

scores (%)	proportions (%)
0 - 0.4	29
0.5 - 1.0	36
1.1 - 1.5	11
> 1.5	0
no answer	24

Table 19. Length diameter ratio of samples

scores	proportions (%)	remarks
< 5	12	L/D = 2 - 3 is common in U.S.A. using samplers 127 mm diameter
5 - 10	49	
11 - 15	24	
> 15	0	
no answer	15	

Table 20. Maximum length-diameter ratio

responses	proportions (%)
required	76
not required	24

Table 21. Materials for sample tubes

item	proportion	remarks
steel	47	Australia, Japan Australia, France, Sweden Australia, U.K.
stainless steel	27	
brass	7	
plastic liner	11	
Aluminum	8	

Table 22. Twisting of a sampler prior to pulling it out

responses	proportions	remarks
twist	40	bottom trimming of samples, use of wire
not twist	54	
no answer	6	

Table 23. Sealing of samples

item	average rank
wax	2.5
packing	1.9
others	1.4

Table 24. Type of wax

item	proportions (%)
paraffin	64
microcrystalline wax	25
others	11

Table 25. Protection of samples from shock or vibration during shipping

responses	proportions (%)
specified	90
not specified	10

Table 26. Control of humidity and temperature during storage

responses	proportions (%)
required	87
not required	3
no answer	10

Table 27. Normal period of storage

scores (days)	proportions (%)	remarks
0 - 5	6	the maximum period is usually not specified.
6 - 15	22	
16 - 30	29	
> 30	17	
variable	20	
no answer	6	

Table 28. Open drive sampler

(a) Samples taken by open drive samplers

scores(%)	proportions(%)	remarks
0	34	U.S.A., Japan, Norway, Canada
1 - 20	15	
21 - 50	12	
51 - 70	8	
> 70	26	Denmark, U.K., Poland, U.S.S.R.
no answer	5	

(b) Methods to force samplers

item	proportions
pushing	48
hammering	46
vibrating	6

Table 29. Use of foil samplers

responses	proportions(%)	remarks
using	29	Less than 3% of undisturbed samples are taken
not using	71	

Table 30. Use of Begemann Sampler

responses	proportions(%)
using	10
not using	90

Table 31. Use of Swedish standard samplers

responses	proportions(%)	remarks
using	42	Less than 20% of undisturbed samples were obtained by Swedish samplers; 95% was obtained in Finland
not using	50	
no answer	8	

3. Block Sampling

Table 32. Use of block samples

responses	proportions(%)	remarks
ever take	92	
never take	4	U.S.S.R.
no answer	4	

Table 33. Purpose of block sampling

item	proportions(%)
routine investigation	19
difficult or important projects	31
research	50

4. Disturbed Soil Sampling

Table 34. Common methods to take disturbed samples

item	average rank
hand auger	2.5
flight auger	2.0
rotary core boring	2.3
percussion boring	1.8
SPT	2.4
pits or trenches	2.3

5. Sample Quality

Table 35. Inspection

responses	proportions(%)	remarks
full-time inspection	46	In U.K., full time for sampling by a piston sampler. Responses of part time or occasional visit include inspection of foundation engineers or consultants.
part-time inspection	34	
occasional visit	20	

Table 36. Qualification of Inspector

responses	proportions(%)
engineer or geologist with degree	45
non-degreed technician	51
others	4

Table 37. Methods to examine sample quality

item	proportions(%)	remarks
recovery ratio	24	
deformation or damage of sampling tubes	31	
X-ray photograph	14	Canada, U.S.A., France, Norway & Sweden
laboratory test results	31	

Summary of Results: These tables highlight the details of the current practice of soil sampling. The results of investigation including the answers to the questionnaire which can not be quantified, are hereafter summarized.

(1) **Planning of Boring and Sampling:** Thin-walled samplers with fixed pistons are most commonly used for taking undisturbed samples of soft cohesive soils. The use of open-drive samplers is fairly common. The use of other types of samplers is limited to a few regions.

The number of probings commonly planned by the majority of engineers for a preliminary investigation is more than 5 times the number of boreholes for undisturbed sampling. For a detailed investigation, half of the engineers provide a number of probings equal to at least 5 times the number of boreholes for undisturbed sampling.

A majority of engineers prefers to take samples continuously (interval less than 1.5 m) from each layer of soft cohesive soils. However, variable intervals, selected depending on geotechnical environment and the purpose of investigation, are suggested by 30 percent of the ISSMFE membership represented.

(2) **Undisturbed Sampling in a Borehole:** Boreholes for sampling are commonly drilled by rotary drilling rigs. Percussion drills or flight augers are also used, but not commonly. Boreholes under the ground water table are supported by casing pipes or stabilized with drilling fluid. Drilling mud is not used above the ground water level.

Casing pipes are commonly drilled into the ground. They are also driven by a hammer, but less commonly. The static penetration of casing pipes is unusual. A majority of engineers recognizes circumstances under which casing is required rather than mud. Casing is employed when granular lenses which are not easily stabilized with fluids are encountered. Casing is also needed if the water table is above the ground water level because of artesian pressure, or when permeability tests are to be made in a borehole or piezometers are to be installed.

Most engineers require the water level in a borehole to be maintained above some level. Cleaning the bottom of a borehole is required by most engineers, but some engineers do not require cleaning before sampling by a piston sampler. In Scandinavian countries, the piston sampler is forced to a desired depth by static penetration. Artificial fills near the ground surface or layers of gravel or sand are removed by boring. Engineers using such a displacement sampler do not require the cleaning of the bottom of a borehole.

Almost all engineers have obtained undisturbed samples using thin-walled samplers with fixed pistons. More than 80 percent of undisturbed samples are taken with such samplers. Less than 10 percent of undisturbed samples are obtained using free-

piston samplers, which are used only for stiff clay in the U.S.A. and for stiff clay and fine sand in Finland.

A majority of engineers uses samplers of 60 to 100 mm in diameter. A diameter of less than 60 mm is common in Scandinavian countries. A diameter of 127 mm is common in the U.S.A. A majority of engineers requires a diameter of not less than 50 mm, though smaller diameters are accepted in Norway, India, and Australia.

A majority of engineers requires an area ratio of less than 15%, while an area ratio of greater than 15% is accepted in a few countries in Asia and the Middle East. The Swedish standard sampler has an area ratio of 44% at its sampling tube, but of only 1% at its cutting shoe. An edge angle of not more than 10 degrees is required in Japan, Norway, Poland, Sweden and the U.S.A., while a greater edge angle is accepted in Australia, France, and Yugoslavia. Sampling tubes 2 to 3 mm thick are commonly used; sampling tubes thicker than 3 mm are seldom used. A majority of sampling tubes is made of steel or stainless steel, while brass is used in Australia and Japan, and aluminum is used in the U.K. and Australia. An inside clearance of less than one percent is common for a majority of engineers. A nil clearance ratio is used in the U.K. and Japan.

A majority of engineers prefers a length-diameter ratio of samples equal to or less than 10. In the U.S.A., a ratio of 2 to 3 is common in samplers, most of which are 127 mm in diameter. Most engineers consider it necessary to specify the maximum length-diameter ratio, but some appear to deemphasize its significance. To prevent corrosion, sampling tubes are coated with oil or hard lacquer (France, India, U.K., and U.S.A.) or painted (Mexico).

For sealing soil samples, a mechanical packer is commonly used, as well as sealing wax. Most engineers specify the protection of samples from shock, vibration, or other sources of disturbance during shipping and the control of humidity and temperature during their storage. Nearly 100 percent humidity is required in most countries. Caution not to freeze samples is stressed in Sweden. Normally, a temperature of not lower than 5°C is recommended for the transportation and storage of samples. Samples are normally stored for less than 30 days, but the maximum period of storage is usually not specified.

Open-drive samplers driven either statically or by hammering, are common in practice. Over 70 percent of samples are taken with open-drive samplers in Denmark, the U.K., the U.S.S.R., and Poland, while undisturbed samples are not taken with open-drive samplers in the U.S.A., Japan, Norway, and Canada.

(3) **Block Sampling:** Block samples have the advantage of yielding samples of larger size and with less disturbance than tube samples, but because of cost and difficulties in ex-

cavation and drainage, block sampling is primarily adopted for site investigation in difficult or important projects, or for research purposes.

(4) Disturbed Soil Sampling: Disturbed samples, used for visual identification or measurement of index properties, are commonly obtained with a hand auger, via the standard penetration test, or from pits or trenches. Flight augers, percussion boring, and rotary boring are occasionally used to take disturbed samples.

(5) Sample Quality: The quality of soil samples is estimated by measuring the recovery ratio and by noting any deformation or damage of sampling tubes.

From the results of laboratory tests, the quality of samples can be more accurately judged. Most engineers judge the quality of samples through field observation and/or laboratory testing.

Most engineers require the full-time or part-time supervision of sampling work, while supervision by occasional visit is supported by a minority of engineers. A majority of engineers prefers non-degreed technicians as supervisors, while supervision by engineers or geologists with degrees is also strongly supported by engineers.

INTERNATIONAL MANUAL FOR THE SAMPLING OF SOFT COHESIVE SOILS

Scientific studies on Soil Sampling were pioneered by M. Juul Hvorslev. The report of the Committee on Sampling and Testing, ASCE, prepared by Hvorslev in 1949 has been, and is, a valuable guideline for practicing engineers. In 1965, T. Kallstenius presented a sub-committee report on problems and practices of soil sampling to the Executive Committee Meeting at the Sixth International Conference on Soil Mechanics and Foundation Engineering held in Montreal, Canada. This report described the current status of undisturbed sampling in various countries. The report also made recommendations on the dimensions of a sampler and procedures of sampling.

Since the Kallstenius report was presented, methods of sampling soft clay have been standardized and codes of practice on sampling of soft clay have been produced in some countries. Therefore, the sampling of soft cohesive soils was considered an appropriate subject on which to base a manual. Soft cohesive soils are, in general, normally consolidated or lightly over-consolidated, having low strength and easily deformable. This manual is applicable to such soft cohesive soils whose undisturbed samples can be obtained by pushing a thin-walled tube.

The soil sampling of soft cohesive soils offshore is conducted using a positioned ship, an anchored barge or a pontoon, a fixed platform, or a jackup platform. A submersible

working chamber and a submersible tethered platform have recently been developed to take samples from the sea floor. Shallow penetration sampling may be conducted from a boat using free-fall corers or by simply scooping up surface sediments. This manual is applicable to soft cohesive soils offshore where undisturbed samples can be obtained using equipment mounted on a fixed platform, jackup platform, or a submersible platform or working chamber. The techniques described in this manual can also be applied to sampling from a barge or a pontoon near the shoreline where the vessels can be anchored against waves and tidal currents. However, special equipment and techniques required for boring in the deep sea and sampling from the ocean floor are not included in this manual.

The results of laboratory soil tests are affected by sample disturbance. Therefore, the accuracy of prediction in soil mechanics depends on the quality of the samples tested. Even if samples are of very high quality, prediction may not be sufficiently accurate if these samples are not representative of layers which are critically important to the design of structures. The location, depth and sequence of boreholes and samples have to be properly selected after planning a well-organized program of soil sampling.

Most specialists in soil sampling are familiar with the current techniques of sampling soft cohesive soils as such techniques have been in use for over twenty years. However, specialists do not always recognize sources of sample disturbance and the influence of such disturbance on the results of laboratory tests. For laboratory technicians who test soil samples and for engineers who analyze geotechnical problems, it is important to know how design parameters obtained from laboratory tests are influenced by sample disturbance and which parameters are more sensitive to sample disturbance. In the first part of this manual (Chapter 2), before entering discussion on the methods of sampling, the methods to evaluate sample quality are described.

The methods to obtain undisturbed samples using tube samplers are discussed in Chapter 3 through Chapter 6. The methods consist of three phases: pre-sampling, sampling and post-sampling. Boring and other preparatory work before sampling are described in Chapter 3. Sampling methods are described in Chapters 4 and 5. Handling of undisturbed samples taken by the methods described in Chapters 4 and 5 is detailed in Chapter 6.

The review of the state of the art presented in the Proceedings of the International Symposium on Soil Sampling held in Singapore in 1979 recognized that thin-walled samplers with fixed piston were popular in most countries. It was also found that the use of open-drive samplers was fairly common. But the samples of soft cohesive soils obtained with open-drive samplers are not of sufficient quality for research, and engineers have found that design parameters are often estimated incorrectly using the results of laboratory tests on samples of soft cohesive soil taken with open-drive samplers. Therefore, this manual describes in detail the method to obtain undisturbed samples using a thin-walled sampler with fixed piston in Chapter 4. The methods of sampling with open-drive samplers

are briefly discussed in Chapter 5. The free-piston sampler has the advantage of simple operation, but the movement of the piston during sampling causes considerable sample disturbance in soft cohesive soils. The use of this type of sampler is briefly discussed in Chapter 5. Other types of samplers, such as the foil sampler and Begemann sampler are also used for obtaining undisturbed samples of soft cohesive soils ; however, the use of such samplers is presently limited to a few regions of the world. The characteristics of these samplers are described in Chapter 5.

In order to avoid disturbance caused by a sampling tube being pushed into soft cohesive soils, block samples can be hand-carved from a trench or a pit. Block samples are also useful in obtaining large-diameter specimens for laboratory tests. But a block sample must be hand-carved carefully to insure that the soil fabric is not disturbed. The sample must be properly sealed and placed in a stable container in order to avoid moisture evaporation and/or sample disturbance. The procedures for obtaining block samples are described in Chapter 7.

Disturbed samples can be obtained for some minor projects or for use in preliminary site investigation of major projects in order to distinguish stratification of the ground and to plan the undisturbed sampling. Disturbed samples are not suited for sophisticated laboratory testing, but they can be utilized to obtain information such as soil classification, index properties and/or water content. Therefore, disturbed samples should represent the general characteristics of the soil in-situ. Various methods to obtain disturbed but representative samples are described in Chapter 8 of this manual.

This manual is intended as a guide for practicing engineers, but it is not to be used as a binding document for specifications or conditions of contract in a specific project.

The draft of the manual was written by the following members of the International Society for Soil Mechanics and Foundation Engineering selected from Japanese Society:

Dr. T. Okumura,	Port and Harbour Research Institute, Ministry of Transport, Kurihama
Dr. S. Okusa,	Professor of Tokai University, Shimizu
Mr. K. Kutara,	Public Works Research Institute, Ministry of Construction, Tsukuba
Dr. K. Mori,	Lecturer of Tokyo Science University, Tokyo Kiso-Jiban Consultants Co., Ltd. Tokyo

The draft of this manual was reviewed by the members and advisors of the sub-committee on Soil Sampling, ISSMF. This manual, edited by the sub-committee, is to be published by the Tokai University Press, Tokyo, Japan.

THE PROPOSED ACTIVITIES OF THE SUB-COMMITTEE IN THE FUTURE

The manual on the sampling of soft cohesive soil has been produced, but manuals for other types of soil are eagerly demanded by engineers in various countries. Therefore, the continued activities of the sub-committee are considered useful and commendable. The preparation of manuals for cohesionless soils or stiff to hard cohesive soils is an anticipated task of the sub-committee, if its continuation is approved by the Executive Committee.

APPENDIX XVII

REPORT OF THE SUB-COMMITTEE ON "EUROCODE 7"

1. Background

Since 1975 the countries of the EEC (i.e. Belgium, Denmark, France, FRG, Ireland, Italy, Luxemburg, Netherlands, the UK, and, since 1981, Greece) have attempted to establish common Codes of Practice in certain fields of Civil Engineering, including:

General rules and safety criteria	EC-1
Concrete structures	EC-2
Steel structures	EC-3
Steel and concrete structures	EC-4
Wood structures	EC-5
Masonry structures	EC-6
Foundations	EC-7

EC-1 is now almost completed, EC-2 and EC-3 are under consideration, while work on EC-4, EC-5 and EC-6 is just about to start.

It is obvious that geotechnical engineers within the EEC should be extremely concerned in how EC-7 is formulated. After consultations with various national societies within the EEC the Secretary General, Kevin Nash, on behalf of the ISSMFE wrote to the Chairman of the Steering Committee on Eurocode offering that the ISSMFE would produce an appropriate Draft for EC-7 (letter dated 1980 March 11th). This offer was accepted by the EEC (letter dated 1980 April 8th), and subsequently the President of the ISSMFE, Professor Fukuoka decided to establish a new Sub-Committee for this purpose.

2. Terms of Reference

The following terms of reference were adopted for the work of the Sub-Committee:

"To survey existing Codes of Practice on Foundations and to draft a Code which may be adopted as Eurocode EC-7 (Foundations)".

3. Members

The sub-committee consists of members from each of the nine National Societies within the EEC (an engineer from Luxemburg may be co-opted); there will also be observers from the other National Societies whose task it will be to supply information on the practice within their own National Societies and to supply comments on the draft produced by the main committee.

As from June 1981 the Sub-Committee has the following members and observers:

Members:

Belgium	E. Lousberg
Denmark	N. Krebs Ovesen (Chairman)
France	F. Baguelin
FRG	U. Smolczyk
Greece	A.G. Anagnostopoulos
Ireland	T. Orr
Italy	R. Jappelli
Netherlands	W. J. Heijnen (Secretary)
U.K.	B. Simpson

Observers:

Australia	P.A. McAnally
China	Zhou Jing
Colombia	J.E. Noya
Finland	S. Saarelainen
India	G. Ranjan
Mexico	G. Springall
New Zealand	J.P. Blakeley
Nigeria	J.I. Folayan
Poland	K. Biernatowski
Spain	J. Salas
Sweden	S.E. Rehnman
Switzerland	F. Blicher
Turkey	E. Togrol
USA	S.E. Clemence

4. Activities

The sub-committee held its first meeting in Bruxelles on the 2nd and 3rd of April 1981; in this meeting existing Codes of Practice in the EEC member countries were surveyed and the future work of the group was discussed. The next meeting will be held during the Stockholm Conference. The Sub-Committee plans to meet 3-5 times per year in order to produce a draft within the next two to three years.

N. Krebs Ovesen
Chairman

ACTIVITIES OF THE PERMANENT CO-ORDINATING SECRETARIAT
REPORT BY SECRETARY, PROF. E.E. DE BEER

1. Since the Executive Committee meeting of the ISSMFE held at Oaxaca in March 9/10, 1979, the Committee of the Secretaries General has met in Brussels, the 1st of June 1979 and the 13th of June 1980.

During these meetings the Secretaries General exchanged ideas about difficulties encountered by affiliation and membership of some countries of Africa, Middle East, Far East. It was stated that the three International Societies generally have the same problems.

Furthermore they looked after the way of running conferences and how to avoid clashing of meetings.

2. Co-ordination on presentation of papers.

In 1980, the Sub-committee on co-ordination on presentation of papers, consisting of the three Secretaries General made a last check-up of the text, on which agreement was reached during the meeting of 1979.

It was now agreed that for the presentation of the papers the ISO format A3 shall be used (297 x 420). For the printing only A4 Standard is prescribed.

To the text on the presentation of papers will be added an introductory notice, explaining the aim pursued with the co-ordination of the presentation of papers. In that note will be stressed that in the long run it is to be hoped that the ISO-standards will come in general use.

The Sub-committee on co-ordination of presentation of papers came to an agreement concerning the typewriting, the lay-out of the text, the equations and formulae, the symbols and units.

The agreed text is given in Appendix 1.

3. Activities of the Co-ordinating Committees.

- 3.a. Co-ordinating Committee on Literature Classification.

Since the meeting in Madrid in September 1978 the Co-ordinating Committee did not meet again as the meeting at Brighton in September 1979 was cancelled.

Mr. Flodin's last sending was his letter dated 17.5.79 and the Revised Version March 1979 of the International Geotechnical Classification System (IGC) of ISSMFE as approved in Oaxaca by the Executive Committee of ISSMFE.

During the meeting of the Permanent Co-ordinating Secretariat in 1979 the Secretaries General concerned agreed to examine if it could not be fruitful to have a joint committee of ISRM and IAFG for presenting a common system on Literature Classification for their

both Societies.

During the last meeting in Brussels in 1980 it was stressed again that IAFG and ISRM should try to have a joint committee on Literature Classification in order to make proposals to the ISSMFE and find a solution for restarting the co-ordinating work among the three Societies.

- 3.b. Co-ordinating Committee on Symbols, Units and Definitions.

At the occasion of the International Conference of ISRM at Montreux a meeting of the Co-ordinating Committee was held in September 1979. The following documents, prepared by Dr. Baguelin have been discussed :

- Proposed modifications for ISSMFE symbols
- Proposed modifications for Lexicons.

Dr. Baguelin had received remarks on the documents from Professor Pincus, Mr. Duffaut, Mr. Wieggers and Mr. Sandegren. Most of these remarks have been taken into account.

All participants agreed that the ISO is the basic document, as it has the approval of different countries. Whenever it exists, the ISO symbol will be used.

For that meeting Dr. Baguelin prepared another document entitled : "Draft of Lexicon" ; from that document, the delegate of each International Society - Mr. Shadmon (IAFG) and Prof. Pincus (ISRM) - received a copy. No definitions are included in that document. It is a document which makes it possible to pass from one language to another, and that for eight languages : English, French, German, Italian, Portuguese, Russian, Spanish, Swedish.

Mr. Shadmon accepted to establish a list of terms to submit for discussion.

Professor Pincus will transmit a copy of the basic ISRM document to each member of the Co-ordinating Committee and also a copy to Prof. De Beer, Secretary of the Permanent Co-ordinating Secretariat.

Professor Pincus, in his letter of March 17, 1980 to Dr. Silvério, Secretary General of the ISRM, pointed out that the Co-ordinating Committee has not had sufficient time either at the IAFG meetings in Madrid in 1978 or at the ISRM meetings in Montreux in 1979, to hold the long detailed discussions that are necessary to make significant progress. The materials so patiently compiled by Dr. Baguelin for the Montreux meeting really deserved 1-2 days of thorough examination discussion. He asked to discuss with the Permanent Co-ordinating Secretariat and with the Advisory Committee the

the advisability of sponsoring a Co-ordinating Committee meeting that would last 1-2 days. Of course, ISSMFE and IAFG would have to agree to co-operate.

Dr. Silvério sent a copy of that letter to Professor De Beer who wrote Dr. Baguelin in order to know his opinion. Dr. Baguelin fully agreed with the suggestion of Prof. Pincus and he proposed to hold that meeting in Paris, July 1980, at the occasion of the Congress on Geology.

Professor De Beer wrote to all members of the Co-ordinating Committee asking them if it would be convenient to have a meeting in Paris at the occasion of the Congress on Geology at 4 and 5 July 1980, as suggested by Dr. Baguelin.

During the meeting of the 13th June 1980 the Committee of the Secretaries General thought it worthwhile to have a 1-2 days meeting in Stockholm in 1981 at the occasion of the International Conference on Soil Mechanics and Foundation Engineering and maybe an informal meeting could be held in Paris.

They would look after the possibility to finance these meetings.

Professor De Beer stressed again that the Permanent Co-ordinating Secretariat has no money available to finance these meetings.

3.c. Co-ordinating Committee on Site Investigation and Sampling.

After the second meeting of the Co-ordinating Committee in Brussels, May 1979, the Committee of IAFG met at Newcastle in September 1979 which has produced the third draft of the IAFG report. This third draft was sent to the members of the Co-ordinating Committee on Site Investigation and Sampling.

According to the proposal made by Dr. Price a third meeting of the Co-ordinating Committee took place at Delft on February 29th, 1980. At the meeting were present : Dr. Price (IAEG) assisted by Dr. Rengers ; Prof. Lousberg and Dr. De Leeuw (ISSMFE) ; Dr. Carpentier, delegated by Prof. De Beer (PCS). Were excused : Prof. Bieniawski, Prof. Militzer, Prof. Serafim (ISRM) ; Dr. Chaturvedi (IAFG) ; Dr. Wilson (ISSMFE).

The ISRM was not represented at the meeting.

During this third meeting the third draft of the IAFG Commission was discussed. This third draft was already adapted taking into account the remarks made in Brussels when the second draft was discussed, and also the written comment of the IAFG Committee.

After discussion, chapter by chapter, the audience agreed with the text.

Dr. Price said that the document will be adapted taking into consideration the remarks made at the meeting, will be retyped avoiding spelling faults and will be presented at the IAFG Committee in Paris at the occasion of the Congress on Geology. The final version will be sent to the Co-ordinating Committee.

Dr. Price hoped the document will be published, perhaps by the UNESCO within a reasonable time, maybe in 1981, otherwise in an IAFG bulletin.

During the meeting in Brussels 1980 of the Permanent Co-ordinating Secretariat, Professor De Beer congratulated the IAFG for the outstanding work done by the IAFG Committee on Site Investigations. The draft provided by this Committee will act as a starting text for the other Societies which will complete it in the next few years. The draft had the agreement of the members of the Co-ordinating Committee.

For the IAFG Committee it is a final result but for the three Societies it is not yet a common document.

Of course IAFG can mention that the text was made in co-operation with the two other Geotechnical Societies, and has the full agreement of the delegates of the two other Societies in the Co-ordinating Committee.

Prof. Dr ir E. DE BEER

Secretary of the Permanent Co-ordinating
Secretariat

REQUIREMENTS FOR PREPARATION OF PAPERS.

1. The special sheets

Special sheets are provided by the Organizing Committee and the original paper must be carefully typed on these. The sheets are 420 x 297 mm and have printed on them in pale green-blue ink two rectangles, each 320 x 122 mm with a space of 11 mm between them. The typing must lie within these frames and the guide lines will disappear in the final reproduction when the overall page size is reduced by about 4:3 to give a page which is A4 size.

The finished typed sheets must be returned to the Organizing Committee carefully packed between heavy cardboard sheets or rolled in an appropriate carton.

2. The typewriter

A typewriter which produces a result similar to that shown on the example sheet should be used. Please note the following points :

- (i) the letter spacing should be 10-points (i.e. about 47 letters per rectangle width of 122mm).
- (ii) the line spacing should be single (i.e. about 4,23 mm between lines or about 75 lines in 320 mm rectangle).
- (iii) the type face should be clear (e.g. Pica design or as close as possible to this (see sample page)).
Note : A different style of letters may be used for titles or to stress individual words.
- (iv) ensure that the type face is perfectly clean and that the strength of the impression is uniform. Use an electric typewriter if possible.
- (v) use a good quality black ribbon of the kind which is usable only once (paper or polyethylene) ; or alternatively use a new nylon ribbon.
- (vi) any errors must be corrected cleanly and imperceptibly. Any blemishes on the top copy will show in the printed version.

3. Lay-out of the text

- (i) Follow carefully the instructions printed on the special sheets.
- (ii) Type on one side only of the special sheets, taking care not to run over into the marked margins.
- (iii) Use single spacing except (a) between paragraphs, where double spacing should be allowed, or (b) before the use of a title of a main section (e.g. INTRODUCTION, CONCLUSIONS, etc...) where quadruple spacing should be allowed, followed by double spacing before the commencement of the text of that section. Subscripts need more space. If the line contains subscripts or indices then 1 1/2 spacing should be used between this line and the adjacent one.
- (iv) The start of each paragraph should be at the beginning of the line.
- (v) The whole of a minor section may be indented in order to emphasise it.

(vi) MAIN HEADINGS

Type main headings in capitals starting flush with the left-hand margin. Continue text on a next line after a double spacing.

(vii) Sub-Headings

Type sub-headings in small letters, starting flush with the left-hand margin, and underline. Continue text on a new line after 1 1/2 spacing.

4. Equations and Formulae

These should be typed if possible centered within the column and numbered consecutively in the order of their appearance in the text ; they will be referred to by these numbers. Symbols which can not be typed should be drawn in black ink and traced mechanically if possible. Allowance of 2 1/2 spacing should be made between the top of the equation and the previous text, between the bottom of the equation and the following text, and between equations.

5. Symbols and Units

This paragraph is to be filled in by each International Society.

6. Figures

This category includes both drawings and photographs. They should be numbered consecutively with arabic numerals in the order in which reference is made to them in the text, without making any distinction between drawings and photographs. Figures may be of two possible widths : 120 mm if they occupy one single column of the special sheets, or 250 mm if they occupy two columns.

All figures should be inserted by the author as close as possible to the first reference made to them in the text, and captions should be typed on the special sheets at the foot of the figures. Excessive notes and designations in the figures should be avoided.

Drawings should be prepared with Indian ink on drawing cloth, drawing paper or any other material suitable for reproduction. In exceptional cases the use of photographic reproductions of drawings would be acceptable, provided they are made on special contrast photographic glossy paper, and are of excellent quality.

Photographs should be in black and white, clearly contrasting and of glossy finish.

Authors must keep in mind that all the lines in the drawings should not be less than 0,2 mm thick and all the letters in the inserted figures will undergo a standard reduction of approximately 4 to 3 and therefore 2 mm should be the minimum size of the original letters.

Drawings should preferably be pasted on the special sheets. Photographs should not be pasted on and sufficient blank space should be left for such separate figures in the text. Every copy of a separated figure must be marked both on the margin (or back), and on the space left for it in the text. These labels must all be written clearly using a lettering device and not freehand.

7. Tables

All tables should be typed or drawn on the special sheets or prepared on separate sheets to the same requirements as for figures. They should be consecutively numbered, with Roman numbers (i.e. I, II, III, etc.), and located in the text as close as possible to the first reference to them.

Abbreviations should be avoided in the headings of the columns and the units should be indicated on the line immediately below the headings. All notes and explanations (as short as possible) should be given at the foot of the table.

8. Title

The title of the paper should be written in English and French (for ISRM : and German)(see example at the end of this Bulletin). It must be concise, consisting of a maximum of 50 characters (spaces included) in each language.

The name(s) of the Author(s) must be written at the top of each page. The initials should precede the surname. The name should be followed by the position held by the Author and his affiliation. The full postal address of the main Author should be given on one of the copies (not the original).

9. Synopsis

Each paper should begin with a synopsis, not exceeding 150 words in length, in the same language as the paper.

10. Conclusions

The conclusions should contain in a concise form the most important propositions of the paper and should state the author's views on the practical applications of the results obtained.

11. References

References should be standardized as follows :

- (a) In the text : The Author's name (without initials) and the year of publication in parentheses
- (b) In a list of references (unnumbered) in alphabetical order of Authors names. The following are examples of a paper presented to a conference, an article from a journal, and a book :

Fukuoka, M., Yoshida, Y., and Masuda, T. (1977). Kinetic friction in landslides : Proc. 10th ICSMFE, (2), 71-74, Tokyo.

Kérisel, J. (1975). Old structures in relation to soil conditions : 15th Rankine Lecture. Geotechnique (25), 2, 433-483.

Peck, R.B., Hanson, W.E., and Thornburn, T.H. (1974). Foundation Engineering. 2nd edition. 514 pp. New York : Wiley.

Note. Titles such as Dr. and Prof. should not be used. If there are more than two Authors only the first need be given, followed by et al.

12. Copyright

If the paper contains any matter from another source, it is the responsibility of the Author to obtain any necessary permission for the reproduction of this matter in the paper from the holder of the copyright. Acknowledgment must be given in the text or figure caption and a full reference supplied.

The copyright of the paper will no longer be held by the Author. Information can be obtained by the Secretariat of the International Society.

APPENDIX XIX

INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING

RECEIPTS AND PAYMENTS ACCOUNT

YEAR ENDED 28th FEBRUARY 1979

RECEIPTS

CONTRIBUTIONS FROM NATIONAL SOCIETIES IN RESPECT OF TWO YEARS ENDED 31ST DECEMBER.

Country	No. of members	1978	1979	Total
ARGENTINA	93	*	*	
AUSTRALIA	179	\$ 554	\$ 629	\$ 1,183
AUSTRIA	59		\$ 434	\$ 434
BELGIUM	99	\$ 549	*	\$ 549
BRAZIL	117	\$ 492	*	\$ 492
BULGARIA	92	\$ 392	*	\$ 392
CANADA	920		\$ 1,445	\$ 1,445
CHILE	23	*	*	
CHINA	100		\$ 550	\$ 550
COLOMBIA	54		*	
CZECHOSLOVAKIA	35		\$ 485	\$ 485
DENMARK	186		\$ 561	\$ 561
DOMINICAN REP.	43	\$ 193	\$ 193	\$ 386
ECUADOR	44	*	*	
FINLAND	170		\$ 545	\$ 545
FRANCE	817		\$ 1,417	\$ 1,417
FRG	634	\$ 1,309	\$ 1,309	\$ 2,618
GDR	22		\$ 472	\$ 472
GHANA	29		*	
GREECE	85	\$ 385	*	\$ 385
HUNGARY	25		\$ 400	\$ 400
INDIA	170	\$ 545	*	\$ 545
INDONESIA	58	\$ 283	*	\$ 283
IRAN	30		*	
IRELAND	2	\$ 227	*	\$ 227
ISRAEL	119	*	*	
ITALY	975	\$ 1,425	*	\$ 1,425
JAPAN	642		\$ 1,317	\$ 1,317
MEXICO	410	\$ 710	*	\$ 710
MOROCCO	109	*	*	
NETHERLANDS	166		\$ 616	\$ 616
NEW ZEALAND	225	\$ 525	*	\$ 525
NIGERIA	26	\$ 211	*	\$ 211
NORWAY	271		\$ 646	\$ 646
PAKISTAN	16	*	*	
PERU	59	*	*	
POLAND	110	\$ 560	*	\$ 560
PORTUGAL	218		*	
RHODESIA	221		\$ 371	\$ 371
ROMANIA	27	\$ 252	*	\$ 252
SOUTH AFRICA	482		*	
S.E. ASIA	220		\$ 445	\$ 445
SPAIN	346	\$ 721	\$ 796	\$ 1,517
SWEDEN	330		\$ 780	\$ 780
SWITZERLAND	212	\$ 661	\$ 662	\$ 1,323
SYRIA	11		\$ 161	\$ 161
TURKEY	47		\$ 272	\$ 272
UNITED KINGDOM	753	\$ 1,332	*	\$ 1,332
U.S.A.	1000		\$ 1,825	\$ 1,825
USSR	356	\$ 881	*	\$ 881
VENEZUELA	199	\$ 499	*	\$ 499
YUGOSLAVIA	86	*	*	
TOTAL IN US DOLLARS		\$12,706	\$16,331	\$29,037

Add: Difference in \$ exchange rates between dates of receipt and account

416
\$29,453

Those contributions shown above, some of which were received in £ sterling, have been converted into U.S. Dollars at the rate of exchange ruling on the day of receipt of the contributions. For accounts purposes, however, both £ sterling and U.S. Dollars receipts and payments have been converted into their U.S. Dollar and £ sterling equivalents at the rate of exchange ruling on 28th February 1979 - i.e. U.S. \$ 2.03 = £ sterling 1.

* RECEIPTS OUTSTANDING

RECEIPTS AND PAYMENTS ACCOUNT

FOR YEAR ENDED 28TH FEBRUARY 1979

RECEIPTS (See statement attached)

Sterling	£	£	\$
1978	2,924.12		
1979	468.24	3,392.36	6,886.49

U.S.Dollars

	\$		
1978	7,186.00		
1979	15,381.00		

Less: Commission	(154.59)	11,040.62	22,412.45
Receipts from advertising	-	-	-
Sales of Penetration Report	926.02	1,879.82	
Sales of List of Members	290.12	588.95	
Less: Commission	-	-	-
Return of travelling expenses	105.00	213.14	

RECEIPTS FOR YEAR	15,754.12	31,980.85	
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PAYMENTS

Personnel charges	6,078.45	12,339.25	
Travelling expenses	862.50	1,750.87	
Postage and Telephone	433.10	879.19	
Photocopying	274.63	557.50	
Printing	617.53	1,253.59	
Lexicon: advance	-	-	
List of Members	25.21	51.17	
Sundries & Stationery	27.09	55.00	

PAYMENTS FOR YEAR	8,318.51	16,886.57	
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Excess of receipts over payments for the year (1977-1978 deficit)	7,435.61	15,094.28	
Balance at 28.2.78	16,795.86	32,609.17	
Add/(less) Increase/(Decrease) in rate of exchange of balance at 28.2.78	(490.33)	491.06	

Balance at 28.2.79	£23,741.14	\$48,194.51	
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Represented by £ a/c	1,940.06	3,938.29	
\$ a/c	21,801.08	44,256.22	

£23,741.14	\$48,194.51		
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Year to 28.2.78

£	\$
2,590.17	5,028.81

10,404.52	20,200.37
4,050.20	7,863.45
-	-
(16.47)	(31.97)
664.68	1,290.49

17,693.10	34,351.15
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5,347.83	10,382.81
5,308.97	10,307.36
460.46	893.98
276.54	536.90
7,154.71	13,890.86
1,446.99	2,809.35
-	-
283.65	550.70

20,279.15	39,371.96
------------------	------------------

(2,586.05)	(5,020.81)
20,245.39	34,417.16
(863.48)	3,212.82

£16,795.86	\$32,609.17
-------------------	--------------------

5,548.68	10,772.76
11,247.18	21,836.41

£16,795.86	\$32,609.17
-------------------	--------------------

We have compared the above receipts and payments account with the books of the Society and find it in accordance therewith.

Deloitte Haskins & Sells
Chartered Accountants
London

9th May 1980

INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING

RECEIPTS AND PAYMENTS ACCOUNT YEAR ENDED 29th FEBRUARY 1980

CONTRIBUTION FROM NATIONAL SOCIETIES IN RESPECT OF FOUR YEARS ENDED 31st DECEMBER

Country	No. of members	1977	1978	1979	1980
ARGENTINA	93		\$ 393	\$ 393	*
AUSTRALIA	179				sFr1766
AUSTRIA	59				sFr1130
BELGIUM	85			\$ 532	sFr 28
BRAZIL	117			\$ 492	*
BULGARIA	92			\$ 392	*
CANADA	920				sFr.3547
CHILE	23		\$ 173	\$ 173	*
CHINA	100				sFr1300
COLOMBIA	54			\$ 204	*
CZECHOSLOVAKIA	35				sFr1040
DENMARK	217				sFr1618
DOMINICAN REP.	43				sFr 336
ECUADOR	57	\$ 119	\$ 119	\$ 209	*
FINLAND	186				sFr1494
FRANCE	853				sFr4762
FRG	960				*
GDR	22				*
GHANA	29		*	*	*
GREECE	72			\$ 460	*
HUNGARY	25				*
INDIA	170			\$ 545	*
INDONESIA	58			\$ 283	*
IRAN	30				*
IRELAND	50			\$ 227	*
ISRAEL	119	\$ 269	\$ 419	\$ 419	*
ITALY	1002			\$ 1452	*
JAPAN	642				sFr3918
MEXICO	410			\$ 710	sFr2240
MOROCCO	109		*	*	*
NETHERLANDS	250				sFr2050
NEW ZEALAND	207			\$ 525	*
NIGERIA	26		\$ 40	\$ 251	*
NORWAY	274				sFr1846
PAKISTAN	16		*	*	*
PERU	59				*
POLAND	110			\$ 560	*
PORTUGAL	110			\$ 410	*
RHODESIA	170				sFr990
ROMANIA	27			*	*
SOUTH AFRICA	482			\$ 707	*
S.E. ASIA	220				sFr1330
SPAIN	346				*
SWEDEN	350				sFr2300
SWITZERLAND	219				sFr1771
SYRIA	11				sFr344
TURKEY	47				sFr788
UNITED KINGDOM	753			\$ 1353	sFr4212
U.S.A.	1000				*
USSR	356			\$ 956	*
VENEZUELA	199			\$ 574	*
YUGOSLAVIA	86		\$ 311	\$ 386	*
TOTAL		US \$388	US \$1455	US \$12213	SFr. 18800

1980 SFr 18800 = \$23,044-25
1977/78/79 'S' receipts= \$14,056-00

Add: Difference due to changes in \$ and SFr exchange rates between dates of receipt and account.

\$37,100-25
\$ 536-25

\$37,659-14

Those contributions shown above as received from National Societies for the year 1977-1979, some of which were received in £ Sterling, have been converted into US Dollars at the rate of exchange ruling on the date of receipt of the contributions.

1980 contributions, some of which were received in £ Sterling and US Dollars, have been converted into Swiss Francs at the rate of exchange ruling on the date of receipt of the contributions. For account purposes however £ Sterling, US Dollar and Swiss Franc receipts and payments have been converted into their US Dollar, Swiss Franc and £ Sterling equivalents at the rate of exchange ruling on 29th February 1980 - i.e. US\$ 2.2795 = £ Fr. 3.838 = £ Sterling 1.

* = RECEIPTS OUTSTANDING

RECEIPTS AND PAYMENTS ACCOUNT FOR YEAR ENDED 29th FEBRUARY 1980

<u>RECEIPTS</u> (see statement attached)					<u>Year to 28.2.79</u>	
<u>STERLING</u>	£	£	US\$	SFr	£	US\$
1977	81.98					
1978	178.46					
1979	4,606.12					
1980	569.16	5,435.72	12,390.72	20,862.29	3,392.36	6,886.49
<hr/>						
<u>US DOLLARS</u>	\$					
1977	269.00					
1978	727.00					
1979	2,521.50					
Less:						
Charges	(25.49)	1,531.92	3,492.01	5,879.51	11,040.62	22,412.45
<hr/>						
<u>SWISS FRANCES</u>						
1980		9,553.15	21,776.41	36,665.00	-	-
List of members		-	-	-	290.12	588.95
Income from reports		520.96	1,187.53	1,999.44	926.02	1,879.82
Return of travelling expenses		307.74	701.49	1,181.11	105.00	213.14
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		17,349.49	39,548.16	66,587.35	15,754.12	31,980.85
<hr/>						
<u>PAYMENTS</u>						
Personnel charges		9,396.08	21,418.36	36,062.16	6,078.45	12,339.25
Travel & expenses		821.87	2,101.40	3,538.14	862.50	1,750.87
Postage & telephone		756.28	1,723.94	2,902.60	433.10	879.19
Photocopying		310.30	707.33	1,190.93	274.63	557.50
Printing		37.50	85.48	143.92	617.53	1,253.59
Sundries		1.06	2.42	4.07	52.30	106.17
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		11,323.09	26,038.93	43,841.82	8,318.51	16,886.51
<hr/>						
Excess of receipts over payments for years		6,026.40	13,509.23	22,745.53	7,435.61	15,094.28
Balance at 28.2.79		23,741.14	48,194.51	80,185.70	16,795.86	32,609.17
<hr/>						
Add/(Less) Increase/(Decrease) in rate of exchange of balances at 28.2.79		(2,291.81)	927.20	2,520.63	(490.33)	491.06
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		£27,475.73	\$62,630.94	SFr105,451.86	£23,741.14	\$48,194.51
<hr/>						
Represented by:						
£ a/c 29.2.80		1,362.71	3,106.30	5,230.08	1,940.06	3,938.29
\$ a/c 29.2.80		16,559.87	37,748.23	63,556.78	21,801.08	44,256.22
SFr a/c 29.2.80		9,553.15	21,776.41	36,665.00	-	-
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		£27,475.73	\$62,630.94	SFr105,451.86	£23,741.14	\$48,194.51
<hr/>						

We have compared the receipts and payments account for the year ended 29th February 1980 with the books of the society and find it in accordance therewith.

Deloitte Haskins & Sells

DELOITTE HASKINS & SELLS

Chartered Accountants

London

13th October 1980

INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION ENGINEERING

RECEIPTS AND PAYMENTS ACCOUNT YEAR ENDED 28th FEBRUARY 1981

CONTRIBUTION FROM NATIONAL SOCIETIES RECEIVED IN THE YEAR ENDED 28TH FEBRUARY 1981

Country	No. of members	1978	1979	1980	1981
ARGENTINA	70			S.Fr. 880.00	
AUSTRALIA	162				S.Fr. 1,698.00
AUSTRIA	59				*
BELGIUM	85			Bal. S.Fr. 1,212.29	*
BRAZIL	117			£ 305.09	*
BULGARIA	92			S.Fr. 1,116.00	£242.43
CANADA	920			Bal. S.Fr. 1,313.00	*
CHILE	23			S.Fr. 542.00	*
CHINA	100				S.Fr. 1,436.43
COLOMBIA	54			S.Fr. 516.00	*
CZECHOSLOVAKIA	46				S.Fr. 1,071.88
DENMARK	228				S.Fr. 1,812.00
DOMINICAN REP.	43			£ 45.76	*
ECUADOR	57			£ 137.31	*
EGYPT	60			£ 140.00	*
FINLAND	198				S.Fr. 1,542.00
FRANCE	849				£1,051.41
FRG	1003			S.Fr. 5,190.00	S.Fr. 5,362.00
GDR	22			S.Fr. 981.00	S.Fr. 995.00 pt
GHANA	29	Bal. £13.09	£81.20	S.Fr. 266.00	*
GREECE	72			S.Fr. 1,038.00	*
HUNGARY	25			£ 221.92	*
INDIA	170			S.Fr. 1,430.00	*
INDONESIA	58			S.Fr. 682.00	*
IRAN	30		*	*	*
IRELAND	50			S.Fr. 650.00	*
ISRAEL	119			*	*
ITALY	1049			S.Fr. 5,246.00	*
JAPAN	771				S.Fr. 4,578.00
MEXICO	410				*
MOROCCO	109	£76.84	£76.85	*	*
NETHERLANDS	285			Bal. S.Fr. 140.00	*
NEW ZEALAND	211			S.Fr. 1,428.00	S.Fr. 1,444.00
NIGERIA	26			S.Fr. 554.00	*
NORWAY	281				S.Fr. 1,874.00
PAKISTAN	16	*	*	*	*
PERU	59	£85.46	£85.46	S.Fr. 536.00	*
POLAND	120			£ 351.80	*
PORTUGAL	110			S.Fr. 1,040.00	*
ROMANIA	27		*	*	*
S. AFRICA	482		*	S.Fr. 2,378.00	*
S.E. ASIA	596				S.Fr. 2,834.00
SPAIN	346			S.Fr. 2,284.00	*
SWEDEN	399				S.Fr. 2,496.00
SWITZERLAND	219				*
SYRIA	15				S.Fr. 360.00
TURKEY	57				S.Fr. 828.00
UNITED KINGDOM	775				S.Fr. 4,300.00
U.S.A.	1000			£1,504.10	*
U.S.S.R.	356			S.Fr. 2,624.00	*
VENEZUELA	199			S.Fr. 1,546.00	*
YUGOSLAVIA	86			£ 241.03	*
ZIMBABWE	170				*
	Total				
Sterling	4,659.75	£175.39	£243.51	£2,947.01	£1,293.84
Swiss francs	66,243.60	-	-	S.Fr. 33,612.29	S.Fr. 32,631.31

* = Receipts outstanding

The above subscriptions, received in the year ended 28th February, 1981
are the actual receipts credited to the Society's bank accounts

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED 28th FEBRUARY 1981

			Year to 29th February 1980					
			£	S.Pr	U.S.\$	£	S.Pr	U.S.\$
<u>RECEIPTS</u> (see statement attached)								
Membership receipts (net of bank charges)	Sterling	4,659.75	20,456.30)			5,436	20,862	12,391
	Dollars	-	-)	44,139.93		1,532	3,880	3,492
	S. France	15,089.66	66,243.60)			9,553	36,665	21,776
Articles copied		3.75	16.46	8.38		-	-	-
List of Members-advertisements		886.39	3,891.25	1,981.08		-	-	-
Penetration Reports		52.50	230.48	117.34		521	1,999	1,188
Refund of Travel and Expenses		130.50	572.89	291.67		307	1,181	701
		<u>20,822.55</u>	<u>91,410.98</u>	<u>46,538.40</u>		<u>17,349</u>	<u>66,587</u>	<u>39,548</u>
<u>PAYMENTS</u>								
Personnel fees		9,260.00	40,651.40	20,696.10		9,396	36,062	21,418
Travel and Expenses		4,375.49	19,208.40	9,779.22		822	3,538	2,102
Postage		470.89	2,067.21	1,052.44)				
Telephone		309.20	1,357.39	691.06)		756	2,903	1,724
Kerox and copying		5,739.89	25,198.12	12,828.65		349	1,339	795
List of Members		42.98	188.68	96.06		-	-	-
Bank charges - Sterling A/c		0.95	4.17	2.12		-	-	-
S. Franc A/c		25.25	110.84	56.43		-	-	-
		<u>20,224.65</u>	<u>88,786.21</u>	<u>45,202.08</u>		<u>11,323</u>	<u>43,842</u>	<u>26,039</u>
Excess of Receipts over Payments		597.90	2,624.77	1,336.32		6,026	22,745	13,509
Balances at 29th February 1980	Sterling A/c	1,362.71	5,982.30	3,045.66		1,940	6,552	3,938
	S. Fr A/c	8,351.94	36,665.00	18,666.59		-	-	-
	Dollar A/c	16,889.59	74,145.29	37,748.23		21,801	73,634	44,256
Differences on Exchange		(744.71)	(3,269.26)	(1,664.45)		(2,292)	2,521	927
		<u>26,457.43</u>	<u>116,148.10</u>	<u>59,132.35</u>		<u>27,475</u>	<u>105,452</u>	<u>62,630</u>
Represented by:	Sterling A/c	3,041.08	13,350.34	6,796.81		1,362	5,230	3,106
	S. Fr A/c	23,416.35	102,797.76	52,335.54		9,553	36,665	21,776
	Dollar A/c	-	-	Nil		16,560	63,557	37,748
		<u>26,457.43</u>	<u>116,148.10</u>	<u>59,132.35</u>		<u>27,475</u>	<u>105,452</u>	<u>62,630</u>

Notes

- The rates of exchange used were those ruling at 28th February 1981. viz £1 = S.Pr 4.39 = U.S.\$ 2.235

We have compared the receipts and payments account for the year ended 28th February 1981 with the books of the Society and find it in accordance therewith.

Deloitte Haskins & Sells

DELOITTE HASKINS & SELLS

Chartered Accountants

London
30th April 1981

APPENDIX XX

BASIC BUDGET 1981-1985

<u>RECEIPTS</u>	(assuming no change in subscriptions)	224,000
	14,000 members at sFr.4.00/year	
	Group Numbers 270 at sFr.150/year	162,000
		<hr/>
		sFr. 386,000
		<hr/>

PAYMENTS at 1981 prices:

<u>Salaries</u>	Secretary General at 48,530 (say)	194,000
	Secretary at 8,600 (say)	34,000
<u>Office</u>	Postage at 4,000	16,000
	Telephone at 4,000	16,000
	Xerox at 3,000	12,000
	Stationery at 2,000	8,000
	Auditors at 1,200	4,800
<u>Travel</u>	4 trips to USA	20,000
	Attendance at Regional Conferences (possibly some returnable)	40,000
<u>Sundries</u>	Printing and assistance with publications	20,000
	Should eventually be recouped	
	Past List of Members (1981)	20,000
		<hr/>
		sFr.385,000
		<hr/>

ISSMFE ANNUAL DUES FOR 1982

(For S.E. Asia - use Phillipines, Singapore, Malaysia, Hong Kong and Thailand)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
REGION	COUNTRY	GROSS NATIONAL PRODUCT ^a		GROUP NO.		FINAL GROUP NO. #
		TOTAL (\$10 ⁶)	PER CAPITA (\$)	MAIN CRITERION (A)	SUBSIDIARY CRITERION (B)	
AFRICA	Egypt	16890	420	3	1	2
	Ghana	4160	380	1	1	1
	Morocco	12890	740	3	2	2
	Nigeria	48100	600	5	2	4
	S. Africa	43760	1580	5	4	4
	Zimbabwe	3330	480	1	1	1
ASIA	China	219010	230	7	1	6
	India	117520	180	6	1	5
	Indonesia	45780	340	5	1	4
	* Iran	N/A	N/A	5	5	5
	Israel	13760	3730	3	8	4
	Japan	884500	7700	9	16	10
	* Pakistan	18250	240	3	1	2
	S.E. Asia	17214	1762	3	4	4
	Syria	7820	960	2	2	2
AUSTRALASIA	Australia	114780	8060	6	17	7
	New Zealand	17700	5530	3	12	4
EUROPE	Austria	56450	7520	5	16	6
	Belgium	95450	9700	6	20	7
	Bulgaria	28310	3210	4	7	5
	Czechoslovakia	71640	4730	5	10	6
	Denmark	54000	10580	5	22	6
	Finland	34020	7160	4	15	5
	France	473030	8880	8	18	9
	FRG	631590	10300	8	21	9
	GDR	94960	5670	6	12	7
	Greece	32430	3450	4	7	5
	Hungary	37150	3480	4	7	5
	Ireland	12280	3810	3	8	4
	Italy	260940	4600	7	10	8
	Netherlands	128270	9200	6	19	7
	Norway	38790	9560	4	20	5
	Poland	127560	3650	6	8	7
	Portugal	19000	1940	3	4	4
	* Romania	36190	1650	4	4	4
	Spain	146940	3960	6	8	7
	Sweden	87260	10540	6	22	7
	Switzerland	81930	12990	6	26	7
NORTH AMERICA	Turkey	53890	1250	5	3	4
	U.K.	319480	5720	7	12	8
	U.S.S.R.	967820	3710	9	8	8
	Yugoslavia	46140	2100	5	5	5
	Canada	203980	8670	7	18	8
	Costa Rica	3390	1610	1	4	2
SOUTH AMERICA	Mexico	91910	1400	6	3	5
	U.S.A.	2135010	9770	10	20	11
	Argentina	53430	2030	5	5	5
	Brazil	180020	1510	7	4	6
	Chile	15770	1470	3	3	3
	Colombia	22990	900	4	2	3
	Dominican Rep.	4600	900	1	2	2
	Ecuador	7400	950	2	2	2
	Paraguay	2660	920	1	2	2
	Peru	11440	680	3	2	2
	Venezuela	39880	2850	4	6	5

For S.E. Asia, average of rates for Phillipines, Singapore, Malaysia, Hong Kong and Thailand used.

MAIN CRITERION (A) - GROSS NATIONAL PRODUCT, U.S. DOLLARS, 10 ⁶	
GNP (\$10 ⁶)	Group No.
<5,000	1
5,000 to 10,000	2
10,000 to 20,000	3
20,000 to 40,000	4
40,000 to 80,000	5
80,000 to 160,000	6
160,000 to 320,000	7
320,000 to 640,000	8
640,000 to 1,280,000	9
1,280,000 to 2,560,000	10
>2,560,000	11

SUBSIDIARY CRITERION (B) - GROSS NATIONAL PRODUCT PER CAPITA, U.S. DOLLARS	
GNP/per Cap. (\$)	Group No.
<500	1
500 to 1,000	2
1,000 to 1,500	3
1,500 to 2,000	4
2,000 to 2,500	5
2,500 to 3,000	6
3,000 to 3,500	7
3,500 to 4,000	8
4,000 to 4,500	9
4,500 to 5,000	10
5,000 to 5,500	11
5,500 to 6,000	12
6,000 to 6,500	13
6,500 to 7,000	14
7,000 to 7,500	15
7,500 to 8,000	16
8,000 to 8,500	17
8,500 to 9,000	18
9,000 to 9,500	19
9,500 to 10,000	20
10,000 to 10,500	21
10,500 to 11,000	22
11,000 to 11,500	23
11,500 to 12,000	24
12,000 to 12,500	25
12,500 to 13,000	26

*Based on World Bank figures for 1978 from World Bank Atlas / 1981 (received May 1981)

#Where the Group Number based on Criterion B is greater than or less than the Number based on Criterion A, then the Group Number based on Criterion A is increased or decreased accordingly by one unit to arrive at the final Group Number.

June 1981

* Countries out of membership since 1979 or earlier

FUNDING OF REGIONAL CONFERENCES OF THE INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND FOUNDATION
ENGINEERING

1. INTRODUCTION

This paper has been prepared by the Management Committee of the New Zealand Geomechanics Society following the 3rd Australia-New Zealand Geomechanics Conference to bring to the attention of the Executive Committee of the ISSMFE the problems associated with the hosting of Regional Conferences by small countries remote from the main centres of activity. While there is a strong desire amongst those in New Zealand and Australia interested in Geomechanics to foster and maintain formal and informal links with international organisations such as the ISSMFE it has become necessary to keep a close watch on the cost of maintaining these links.

New Zealand is a small nation located far from the main centres of world population. It nevertheless has a higher ISSMFE membership per head of population than any other nation in the world. As host this year to a Regional Conference of the ISSMFE and, having had to consider the implications of funding pre-conference visits to New Zealand by elected dignitaries of the ISSMFE, the New Zealand Geomechanics Society considers itself qualified to make these representations to the ISSMFE. Further the New Zealand Geomechanics Society believes that the case presented here for relief could well apply with similar force to any other moderate sized country remote from the main centers of activity. Neither the remoteness nor the size of a country should restrict its ability to participate in the affairs of the ISSMFE.

2. PRESENT ENDORSEMENT CRITERIA

One of the main (and certainly one of the more expensive) activities linking individual societies to ISSMFE and its geographical regions, is the Regional Conference. For these conferences ISSMFE has laid down certain conditions which include:

- a) "As part of its commitment in hosting International and Regional Conferences, the host country shall pay all travel and out-of-pocket expenses of the President, Secretary General and Regional Vice-President in relation to the planning and preparation of International and Regional Conferences as well as all associated secretarial salaries and expenses and over-heads" (circular letter from Secretary General of 20 December 1978) and
- b) "In future, too..... the ISSMFE will be asking the organisers to impose a 10% surcharge on the registration fee and the cost of the Proceedings in order to assist ISSMFE with its own finances" (circular letter from Secretary General of 29 March 1979).

These two requirements should they be enforced could have a severe depressing effect on the activities of the remote regions. To illustrate this point the potential financial burden imposed by these requirements has been evaluated for the 3rd A-NZ Geomechanics' Conference. The detailed costing (presented in 1980 US dollars terms) is put forward as Annex 1 to this submission. In summary the financial implications are:

- 1) the cost of pre-conference visits by dignitaries of the ISSMFE would amount to about 30% of the technical costs of the conference.
- 2) The 10% surcharge on the registration fee and cost of the Proceedings plus the cost of the above travel has the effect of increasing registration fees by about 64%.

While it may be said that the conference registration fee is only a minor part of the expense of attending and participating in a conference, the New Zealand Geomechanics Society believes that it is a most important and conspicuous component of those expenses. If unnecessarily inflated it will deter many organisations from allowing or helping their staff to attend. A Conference without sufficient participants is a technical and financial disaster.

3. ALTERNATIVE ENDORSEMENT CRITERIA

It is the firm belief of the New Zealand Geomechanics Society that the pre-activity consultations for regional activities do not require the presence of the Secretary General and/or President. This is considered to be a matter which can be resolved at Regional level and it is suggested that the following proposal would be less onerous than the present conditions and just as effective in ensuring appropriate standards and in providing an income to ISSMFE;

- i) The suitability of the proposed activity for endorsement be determined by correspondence between the Secretary General and the organising National Society.
- ii) The ISSMFE should set the criteria of suitability for endorsement.
- iii) The Regional Vice-President of ISSMFE be required to make an independent report to ISSMFE on the status of the proposed activity in Regional terms and its suitability for endorsement.
- iv) That endorsement as a Regional activity be conferred only after a favourable report by the Regional Vice-President.
- v) The extent to which the Regional Vice-President need travel to discharge his responsibilities should remain a regional matter.

- vi) The 10% levy on the registration fee be replaced by a component in the selling price of the Proceedings. This component is analogous to a royalty, but copyright of the Proceedings should remain wholly with the organising National Society under the laws of that country.

The following benefits are seen to arise from the proposal made above.

- a) The proposal eliminates unnecessary and expensive air travel and puts all Regions on a more uniform footing irrespective of remoteness from the office of the Secretary-General of ISSMFE.
- b) The proposal increases the status and responsibility of the Regional Vice-President. It becomes primarily the Vice-President's responsibility to judge whether the proposed activity is only of local interest or of Regional importance.
- c) The proposal avoids inflating the registration fee thus promoting the viability of the activity while providing an income to ISSMFE at no risk.
- d) Endorsement could in principle be given to activities other than regional conferences to the mutual benefit of ISSMFE, the Region, and the host country. Speciality conferences, symposia, workshops, technical tours and seminars, if of appropriate technical content, are all useful means of advancing the study and practice of soil mechanics and foundation engineering. Criteria could be set under section 3(ii) of this paper.

The New Zealand Geomechanics Society has considered most carefully the implications of the requirements laid down by the ISSMFE and in no way wishes to criticise the intention of the ISSMFE. The costs of running an international society and of the impossibility of finding these costs from affiliation fees alone are appreciated. Our concern is that the present requirements, as we believe they will operate in New Zealand, impose heavy financial burdens which the New Zealand Geomechanics Society would be unable to carry. The Society would be forced to give up all thought of organising future Regional Conferences of ISSMFE. This would be much against our wishes and our obligations to ISSMFE.

With the 4th Australia-New Zealand Geomechanics Conference scheduled to be held in Perth 1984, this matter is of very real concern to both the Australian and New Zealand Geomechanics Societies. Any unnecessary financial burden imposed upon the conference organisers could well mean the end of this successful series of Regional Geomechanics conferences or a break in relations with the ISSMFE.

4. PROPOSAL

The New Zealand Geomechanics Society therefore, through the Regional Vice-President, requests that the ISSMFE review its requirements for Regional Conferences with a view to arriving at an arrangement such as that outlined above which, while providing appropriate financial support

to the ISSMFE, does not impose excessive burdens on any host country.

I M PARTON
CHAIRMAN
NEW ZEALAND GEOMECHANICS SOCIETY

ANNEX 1

Detailed costing of Executive Pre-Conference Travel

The requirements laid down by the ISSMFE for pre-conference executive travel have been described in the paper. Before the implications of the first requirement can be worked out several assumptions have to be made. The requirement does not specify who decides whether travel will be necessary how much there will be or even between what centres. Nor is the standard of travel and accommodation specified and the likely level of secretarial expenses and overheads is uncertain. In the case of the 1980 Wellington conference the following assumptions were made:

- 1) ISSMFE would consider that a single visit to Wellington by the President, Vice President and Secretary General would be sufficient and that no other travelling in connection with the planning and preparation of the conference would be necessary.
- 2) The business could be dealt with in a single two day visit.
- 3) The visit would be made approximately one year before the conference.
- 4) Economy air travel and accommodation would be used.
- 5) Secretarial expenses and overheads would be minor.

These assumptions led to the following budget costs in 1980 US dollars.

Return air fare Tokyo/Wellington (President)	\$1665
Return air fare Sydney/Wellington (Vice President)	402
Return air fare London/Wellington (Secretary General)	2200
Ground transportation, airport taxes, etc. say	300
Accommodation (six nights total)	1200
Incidentals, out of pocket expenses, say	500
Secretarial expenses and overheads, say	500
Disbursements sub total	\$6767
Overdraft charges on disbursements at 20%	1353
Total budget cost	<u>\$8120</u>

*Air fares quoted by Gateway Travel Ltd
1 January 1981.

This figure is believed to be a reasonable assessment of what the costs can be kept down to with care by all parties and yet it comes to about 30% of the technical costs of the conference.

The second requirement operates in a more subtle way but as it piles costs on costs has an equally significant effect. The wording requires the surcharge to be on "the registration fee and on the cost of the Proceedings". Since the cost of the Proceedings is a major component of the registration fee this item in fact has to bear a 20% levy. Then some travelling costs under the first requirement have to be added into the conference fee (the Society has no other way of costing them) and so in turn are increased a further 10% by the levy. For the 1980 Wellington Conference the budget figures come out as follows:

1) Conference fees	157 at \$150	\$23,500
2) Cost of Proceedings		10,500
3) Executive Travel		8,120
Sub Total		42,170
4) 10% levy on Sub Total		4,217

Thus the revised conference fee would have come to \$229, an absolute increase of \$79 and in percentage terms a 53% increase.

The percentage increase appears particularly severe because the Society, in an endeavour to keep the Conference fee to the minimum has budgeted on recovering only the domestic costs (\$50) and about half the technical expenses of the conference (\$30,000 approx) from fees. The balance of the technical expenses is being met with the aid of sponsors and by the Society putting its own assets at the risk in the firm expectation that post conference sales of the Proceedings will meet the shortfall.

APPENDIX XXII

REPORT OF LIST OF MEMBERS SUBCOMMITTEE

It is with a feeling of sadness that I am here today to present this report to you.

As shown on the Agenda, it was planned that Professor Nash, Secretary of the List of Members Subcommittee would present the report. Due to the untimely death of Professor Nash, I felt that it is my duty to be here today, and particularly I wish to report to you the hard work done by Kevin Nash for the Subcommittee. This also explains why I do not have a report tabled in front of you.

The ISSMFE List of Members is produced every four years, usually published and distributed just before each International Conference. For many of us who have never been involved in producing such a list, we would never realise the amount of effort required in publishing such a book. For the last two editions, i.e. the 1973 and 1977 List of Members, the full responsibility of producing the List was on the shoulders of the Secretary General of the Society. However, due to increase in the number of members of the Society and the escalating cost for printing and mailing, finances for the production of the List becomes a major burden to the Society. For this reason, a List of Members Subcommittee was appointed by the President with the assignment: "to make recommendation to the Executive Committee as to the format to be used for the 1981 List of Members and, in conjunction with the Secretary General, to arrange for its production and distribution". I was appointed as the Subcommittee Chairman, with Messrs M. Adams of France, GKN Keller of FRG, S. Ohya of Japan, T.R.M. Wakeling of U.K. and R.S. Woodward (represented by Mr. R. Lundgren) of U.S.A. as members. Professor J.K.T.L. Nash, our late Secretary General served as the secretary. Professor P. Lumb of S.E. Asia was appointed subsequently as a member. Our objective was to produce a document which is useful and at the same time financially self-supporting.

Although I was Chairman of the Subcommittee, I merely offered suggestions to and discussion with the Secretary. Practically all the work was undertaken by our tireless late Secretary General, Professor Nash. I am sure that every member of the ISSMFE, after seeing the well produced List, will share with me our gratitude to the late Professor Nash and our sorrow at his passing away.

In the process of producing the List, there were two major questions confronted us, e.g. format of the List whether or not to include advertisements, and source of finance which amounted to over U.S.\$20,000. Discussions were held with the Swedish Organising Committee in regard to the possibility of combining effort to solicit advertisements for the products catalogue and the List of Members. We have recognised that it is not easy to get advertisements. However, after careful considerations about the financial implications, we have decided that the ISSMFE should go ahead independently to get advertisements and professional cards printed in the List. Through the vigorous effort of many members of

the Subcommittee, we were able to achieve our goal. The List was printed and will be distributed without placing any financial burden on the Society. At this point I wish to thank the various Subcommittee members for their contribution. In particular, I would like to single out Mr. S. Ohya of Japan who has obtained more than half the advertisements, 22½ pages out of a total of 36 pages.

With the income received from the advertisements and professional cards and the subsistence promised by the Swedish Organising Committee, I am pleased to report that we were able to meet the objectives of producing a useful reference document and financially self-supporting. In fact, I believe that we have made some small profit. The exact amount will be shown in the financial report of the Secretary General.

In the Appendix, I am listing some of the important events which had taken place in connection with the production of the 1981 List, in chronological order.

To conclude my report, there are the following three points which I would like to bring to the attention of the Executive Committee for consideration.

(1) I believe that the List of Members is a useful reference document, particularly if the List could include a good listing of equipment manufacturers, constructors and consulting engineering firms specialising in geotechnical work around the world. Publication of the List should be continued. The List will be even more valuable if the contents could be updated say once every two years. A new method of printing may have to be found for economic updating of the entries.

(2) I believe that the List can be easily self-supporting financially and perhaps can even be financially rewarding to the Society if it were properly handled. Methods of soliciting advertisements should be carefully considered. Employing professional agencies in various countries may very well be the answer. This was in fact used by Mr. S. Ohya in Japan for the 1981 List.

(3) The question of who should be responsible for producing the List should be considered. I suggest that serious consideration be given to the possibility that the production of the List of Members be a part of the responsibility of the host Society of the International Conference.

By doing so, we can easily resolve the problem of how and where to put the limited resources of advertisements, whether in the List of Members, in the products catalogue or in the Geo-guide. After all, we are all competing for the same clients.

Za-Chieh Moh
Chairman

ADDENDUM

- 1978-6-28 Appointment of the Subcommittee by the President.
- 1978-11-20 Mr. B. Myles of the Swedish Organising Committee suggested to combine the advertisement section of the List with the products Catalogue and offered U.S.\$ 8,000.00 subsidy to ISSMFE.
- 1979 Report made to Executive Committee meeting in Mexico City.
- 1979-7 President Fukuoka, Secretary General Nash and Chairman Moh met in Singapore during the 6th Asian Regional Conference and decided to go ahead alone in principle. Announcements were made at the 6th ARC and subsequently at the 7th ERC in November.
- 1979-11 Decided format of advertisement, professional cards and price.
- 1980-5 Contacted Subcommittee members to solicit advertisements.
- 1980-5 to 1980-7 Obtained quotations from three printers, i.e. Libra Press of Hong Kong, Palantype of U.K. and Balkema of the Netherlands.
- 1980-5 Asked National Societies to submit respective List by October 31.
- 1981-2 Accepted offer from Balkema to print.

APPENDIX XXIII

PROPOSALS BY THE PRESIDENT FOR A STEERING COMMITTEE

I have acted as the President of ISSMFE for the past four years and my term of office will soon come to an end without any trouble thanks to strong support given by the Vice-Presidents, Secretary General and National Societies. I would like to express my sincere appreciation for the co-operation rendered by all concerned.

What I have kept in mind was how our Society would be able to be active in its activities and also be helpful in the Society Members' daily business. However, it has in reality not necessarily so progressed as I initially expected due possibly to a variety of causes.

The problem of how the management of the Society can be improved has often been discussed at Executive Committee meetings. I began seriously to think about this matter when my half term of presidency had passed and the representatives' conference was held at Oaxaca, and I came to my own conclusions about this matter around last May 1980, about one year ago. I showed my ideas to Prof. Mackechnie, the Vice-President for Africa and the Secretary General at the African Regional Conference held in June 1980 and obtained their consent at that time. Since then, I referred the matter to the Vice-Presidents in the form of a letter addressed to them, and I further consulted with the past Presidents. I also showed the letter to the representatives from many countries attending the Danube-European Conference held in Bulgaria in September 1980 and sought their understanding. I received various suggestions from people with whom I consulted and almost obtained their consent on my basic ideas. I think the so-called secondary draft of agenda on this matter, in which the above suggestions are incorporated as much as possible, should be submitted and discussed at the coming Executive Committee meeting and what is practicable should gradually be put into practice as far as possible.

What I thought first is that we should always concretely consider that activities will be advisable and we need an organisation to exclusively handle the business matters. When we requested National Societies to recommend key role persons to work for the international conferences during the period from the end of 1977 to Spring of 1978, many persons were recommended by those National Societies and also similarly when the subcommittees were set up. In other words, it has become clear that there are many persons among the Societies members who are willing to participate in and render their services to the Society's activities. On the other hand, the Society is repeatedly being asked to have a committee on each and every division of speciality, or to study jointly one specific problem and to prepare standards and manuals, and disseminate its results widely on an international level. It would surely be splendid if such a role as

cited above could be accomplished by the Society.

It was in 1978 when I noticed this respect, but in case any committee would be organised, the President should do so according to relative articles of the Society, which read:

'42. Acting on behalf of the Executive Committee the President, after having sought the advice of the National Societies, may set up standing and ad-hoc subcommittees and working parties with whatever powers, terms of reference and membership he may consider appropriate and these shall be reported to the next meeting of the Executive Committee for formal approval. Each subcommittee shall be formally disbanded at the end of the four year period but it may be reformed by the new President.

43. A written report presented by the Chairman of each subcommittee shall be given on behalf of the subcommittee to the Executive Committee meeting at the time of the next International Conference."

In other words, the President should seek opinions of the National Societies. As it is considered that the Executive Committee meeting was the most favourable opportunity to do so, this matter was taken up at the Executive Committee held at Oaxaca, and the subcommittee for Soil Testing was set up at that time. However, the remaining term of office of the subcommittee was two years in that case as it would expire when the next International Conference would be opened. As it takes half a year for preparation of a written report to be submitted to the Executive Committee after half a year spent for business procedures for nominating the Subcommittee members, the Subcommittee members have only a year to actually act as its members.

It is desirable to afford such subcommittee members at least four years duration for their actual activities. The Society goes into limbo when the President's term of office expires at the Executive Committee meeting to be held before the next International Conference and it is therefore impossible to have a serious discussion by the existing Committee members during the Committee meeting being held. I think that the Committee should be organised and managed on the basis of the intention of the Executive Committee members rather than the President's, and the Committee members should hold fully their term of office so as to achieve their objectives as they initially expected. Next, I would like to take up the matter of the Committee's expenditures. At the present stage the expenses for management of the Committee are for its Chairman and members to bear by themselves. There are some persons among the Committee members who are very active in their

activities but are unable to attend the meetings due to foreign currency being unavailable as desired in their living countries. In case the Chairman of the Committee asks for outsider's aid for the benefit of his Committee members, it is necessary to explain the reason why he should do so and contact with the parties concerned for that purpose, which costs him some expenses. Besides, it is clear that if any portion out of the expenses, which the Chairman needs, might be subsidized by the Society, it would be very helpful for him.

As mentioned above, the Committee's activities cost them some expenses. Can't the Society bear any portion of such expenses? There are many Societies which are getting other income than the subscriptions by issuing their own publications. Our Society should also earn some proceeds by issuing the results realised by the Committee's activities in the form of publications, and a part of the proceeds should be used to pay for the Committee's activities.

Let us suppose that there is a Committee named "A". At the beginning of organisation of that Committee, their activities cost them some expenses for collecting relative materials, arranging to hold a Committee meeting and contacting with the parties concerned. When they complete the first stage of their activities they will be able to publish the results of their activities in the form of a written report, but they first need necessary funds for publication, and they can subsequently earn some income when their publications are sold.

If Committees so named as B, C, D might concurrently have started the same businesses, a large amount of expenses would be required for them to be paid at one time, but they would have a large amount of earnings at the same time. On the contrary, if the duration of their various business activities were to be slightly staggered, and a fund of money were to be set aside for the purpose, they could then draw on this without incurring any debt. The need to plan and adjust the Committees' activities arises for such reasons as are mentioned above. It would be impossible to do this under the current way we work. I would, therefore, like to propose to set up "Steering Committee for Technical Sub-Committees". The businesses assigned to the Steering Committee are to work for establishment of sub-committees, handling of personnel affairs and budgetary affairs, dissolution of the sub-committee and dissemination of the Society's activities. The said Committee members are to be composed of the President, Vice-Presidents and members, who are less than six and appointed by the President. The Committee meetings are to be held twice annually.

The Articles of the Society are required to be amended, and so I would like to amend as follows:

"42 Each Sub-committee by the new President".

The above item shall be deleted.

It is required to obtain the Executive Committee's approval to the establishment of the Steering Committee for Technical Sub-committee under the rules provided in the Article No. 33, which reads:

"33 The ultimate control of the ISSMFE rests with the Executive Committee and all major matters of policy require its approval".

If the Society's activities were become more active by such a method as mentioned above, the scale of its budget would be expanded, and it would require to increase the subscriptions. However, I understand that there is a strong opposition to an increase of the subscriptions, and the subscriptions, therefore, are left as they are for the time being. Under the circumstances, I am proposing a draft budget as shown below.

Proposed Budget of ISSMFE
for 1981-83

Expenditure

	<u>Ordinary Budget</u>	<u>Special Budget</u>	<u>Total</u>
Secretary General	26,000	26,000	52,000
Assistant	12,000	10,000	22,000
Travel	8,000	4,000	12,000
Office	14,000	6,000	20,000
Sub-committees, etc.	-	5,000	5,000
Sundries	-	4,000	4,000
	<u>60,000</u>	<u>55,000</u>	<u>115,000</u>

Income

Subscriptions	80,000
Lexicon	10,000
Site Investigation Manual	10,000
European Pen. Test	5,000
Soil Testing Manual	10,000
	<u>115,000</u>

As the Steering Committee has not been set up yet, it is impossible to make a draft budget for the Sub-committees. I would, therefore, like to propose to tide over the years of 1981-83 for the present with \$5,000.

I thought such a draft budget as cited above should be submitted for examination to the Executive Committee, but such a draft has mostly not been presented to that Committee until today, which I think might be done so due likely to the scale of the present budget having been small. I would therefore like to propose as to how to make a draft budget. Firstly, there is no rule provided by the Society as to who is responsible to prepare a draft budget, but if there is any rule to apply in this case for putting into effect, this matter should be examined applying the words of "all major matters" in Art. No. 33, too.

I investigated the rules provided by other Societies applicable in this respect, but there have been no appropriate rules found in their Articles and those are mostly set up in their By-Laws. However, there is no written rule in our Society clearly providing this matter. The terms of reference fixed by the

Budget and Finance Committee provide:

"To make recommendations to the Executive Committee as to the methods used for assessing to the annual dues for each National Society and generally to advise the Secretary General with regard to the financial affairs of the Society".

Unless the Society's plan for appropriation of the annual dues would be explained to the Executive Committee, it is impossible even to make any recommendations to raise the annual dues. Accordingly, the Budget and Finance Committee members should always know well about a draft budget and expenditure. It is thought that the Committee does not really pay any attention to this respect in its daily activities.

Menatime, there is an item providing about the Secretary General in the Articles, which reads:

30. The Secretary General shall send to each National Society an annual account of the dues owing, and shall ensure that all contributions and dues paid to the Society are placed in a separate account and that a record is kept. He is responsible for keeping the accounts of the Society, for the preparation of the annual budget of receipts and expenditures and for payments to the Society up to the limit of the approved budget. He shall acknowledge all the money received and only he or the President may authorise expenditures. The Secretary General shall prepare a summary of the accounts for each meeting of the Executive Committee and shall give any explanation required of expenses incurred.

The above item provides "He is responsible for keeping the accounts of the Society for the preparation of the annual budget of receipts and expenditures and for payments for the Society up to the limit of the approved budget", but does not refer to any procedures to approve the budget. However, as the President asked the Secretary General for preparation of a draft budget, I think he will comply with this request closely contacting with the Budget and Finance Committee members.

If this draft budget is prepared with mutual consent between the Secretary General and the Budget and Finance Committee, but is not finally approved by the Executive Committee, this draft budget proposed by me will as a matter of course be withdrawn.

Firstly, it may be well to attach any condition as to how to appropriate the budget at the time when this draft is approved. This draft budget is composed of two items, Ordinary Budget and Special Budget, and it has been made on the basis of the proposal given by Professor Smoltczyk at the E.C. Meeting held in Oaxaca. The original Ordinary Budget is prepared by the Secretary General and is to be submitted to the Budget and Finance Committee, and then the Budget and Finance Committee makes a total draft budget incorporating other draft budget therein. The total draft budget is presented to the Executive Committee. After the budget has been finally approved by the Executive Committee, the Secretary General is authorised to disburse from the Budget in line with the Society's policy. The Special Budget bill is to be

prepared by the Budget and Finance Committee on the basis of the actual Committee's activities such as their publication and meeting, etc. As for the expenses incurred by the Technical Sub-committees in their activities and the incomes resulted from their activities, we would like to pay regard to the opinion of the Steering Committee for Technical Sub-committees on this matter. In case the incomes run short, the Budget and Finance Committee should look into the matter of raising the National Society's dues.

The honorarium and travelling expenses of the Secretary General occupy a large portion of the budget, and in case the Secretary General will do full-time services, the above expenses should partially be supplemented out of the Special Budget. In case the budget becomes tight, the travelling expenses shall first of all be curtailed. The Budget and Finance Committee should rather carefully watch a change of budgetary balance than check up a disbursement, and should also endeavour to make up a budget to meet the Society's activities. In case the approved budget is expected to be revised on a large scale, the Secretary General, Budget and Finance Committee and the Steering Committee should report to that effect to the President, and the President seeks opinions of the Vice-presidents and Societies, and prepares a revised budget, which is at the final stage presented to the Executive Committee for their approval.

In case establishment of the Steering Committee for Sub-committees will not be approved, what should we do? Dr. D'Appolonia presented his proposal to reorganise the Executive Committee. His proposed plan indicates that the current Executive Committee will become a Board of Delegates and in its place, a new Executive Committee consisting of the President and Vice-Presidents should be established. There are some other Societies, which are managed under such a system as proposed above, but if we were to adopt the same system the existing Articles of our Society would require to be amended widely, and it takes some time to do so. Accordingly, amendment of the Articles should be limited to minimum in its scale. A proposed amendment draft of the Articles is as shown in the attached, of which I would like to hear opinions, if any.

If many National Societies are of the opinion that the best plan is to make such significant amendments to the existing Statutes, it is quite natural that we have no objection to follow their opinions.

When our Society's activities become active, it will be hardly possible to leave the organisation of the existing secretariat as it is, and in order to meet the requirements, it will become necessary to appoint a full-time Secretary General. At the present stage, I think Professor Nash is one of the most recommendable candidates for that purpose. I would, therefore, like to propose this matter to the Executive Committee as one of the important items. As for a matter of the honorarium, it is requested to take up this matter for examination as a budgetary item hereafter. However, the ordinary budget is desirable to be approved without being discussed so severely. Next, as for a matter of selection of the Secretary General, there

is no item clearly referred to this matter, but the Article No. 29 merely refers to as follows:

29. The Secretary General shall be appointed at an Executive Committee Meeting at terms to be agreed by the Budget and Finance Committee.

However it is desirable to be amended to the effect that the Secretary General shall be appointed by the President and then be approved by the Executive Committee.

As the Budget and Finance Committee members assume a very important role, I think its members should be selected by the Executive Committee. A Budget and Finance Committee member should be selected from each region, and may I suggest the Vice-Presidents to propose? The Executive Committee approves it. The said members' term of office shall be four years and any member shall not be precluded from being reappointed. The President shall have an authority to select a Chairman of the Committee and shall seek the Executive Committee's approval. The Committee members shall be changed in the middle year of the interval of every International Conference being held.

Next, it is desirable to prepare in order the rules and regulations for handling of the accounting business and management of the Committees, and I would like to propose to set up a Committee for that purpose.

Travelling Expenses of Officers for Attendance at Conference/Meetings

It was decided at the Executive Committee meeting held in Tokyo that the travelling expenses of the officers (President, Secretary General and Vice-Presidents) for their attendance at the Conference and for its preparations shall be paid by the host country, the details of which are as follows:

Appendix 17

5. As part of its commitment in hosting international and regional conferences, the host country should:
- (a) pay all travel and out-of-pocket expenses of the President, Secretary General and Regional Vice-President in relation to the planning and preparation of international conferences, as well as all associated secretarial salaries and expenses, and overheads.

However, there have been extremely rare cases that this rule has been observed until today. I would, therefore, like to propose to partially amend to the effect that:

"the Societies which are ranked in high group numbers ranging 7 - 11 shall pay all travelling expenses of the President and the Secretary General".

In case such expenses may not be paid in advance, it may be possible to apply to ISSMFE for advance payment of the expenses on behalf of the Society concerned, if necessary. If it is difficult to be paid in advance by all means, it requires to have the Executive Committee's approval in advance. Other Societies ranked in group numbers lower than 7 should have an appropriate share in payment after doing their utmost efforts, and its allotted amount shall be fixed by the host country. If any surplus

funds would be left over after the Conference, such funds shall be paid to the officers.

Allocation of Pages to each National Society for the Proceedings of the International Conferences

When the Executive Committee meeting was held in Tokyo in 1977, the then President, J. Kerisel made a proposal on the numbers of pages to be allocated to each country in preparation of the International Conference Proceedings. In the item of "Recommendations for the Future (ii) of the above proposal, he indicates that the President is to allocate 0.1N pages and the said allocated pages are to be allotted only to the Societies. Shall it be impossible to amend the above item so as to allocate such pages to specific persons, if they want?

M. Fukuoka

EXECUTIVE COMMITTEE MEETING IN STOCKHOLM 1981

Reception given by the X.ICSMFE Organizing
Committee at The Royal Swedish Automobilkлубb,
KAK, on June 12

WELCOME ADDRESS

Sven Hansbo, Chairman, Organizing Committee

Mr President

Ladies and gentlemen

This night we have the pleasure
of satisfying our corporeal needs
nourishing hope and feelings
intelligence and deeds
so that we all tomorrow
can do what we intend
you, ladies, for your fun (with only few exceptions)
we men (and Mrs Webb of course) by solving problems

You ladies so beautifully dressed
may wonder what we do
to fill our time
but, dear ladies, truthfully
we deal with questions
which comparable are
to those in politics
and this explains I think
why we can sit for days
and seemingly do nothing

Remaining for to-morrow
we find
the following important points
election of the President
the fittest of us all
and, even more important,
to find the best support
for our Society
in handling its routines
in future work
a Secretary General
as qualified as Kevin Nash
our former Superman

When this is done
we can relax and start to learn
from specialists from all the world
the things and matters
that we have really come for!
X 81 as you may call it.
But now, enjoy your meal
the varying courses and the wine
and please yourself
while you are here
in Stockholm - Venice of the North -
Be welcome
Skål

Opening Session June/Juin 15, 1981

Séance Inaugurale

*His Majesty
King Carl XVI Gustaf
Patron of the Tenth Conference*

*Le Dixième Congrès est placé
sous le haut patronage
de sa Majesté le Roi
Carl XVI Gustaf*



PARTICIPANTS

His Majesty the King Carl XVI Gustaf

Prof. S. Hansbo, Chairman, Organizing Committee,
Tenth International Conference

Prof. M. Fukuoka, President, International Society for
Soil Mechanics and Foundation Engineering ISSMFE

Prof. R.B. Peck, Past President, ISSMFE

Mrs. Mel Nash

Prof. U. Lindblom, Secretary General, Organizing
Committee, Tenth International Conference

Prof. S. Hansbo

Ladies and Gentlemen, we are greatly honoured to call
upon His Majesty the King to open the Tenth International
Conference on Soil Mechanics and Foundation Engineering.

OPENING ADDRESS BY HIS MAJESTY KING CARL XVI GUSTAF,
PATRON OF THE 10TH INTERNATIONAL CONFERENCE ON SOIL
MECHANICS AND FOUNDATION ENGINEERING

Mr Chairman,
Distinguished Guests,
Ladies and Gentlemen,

Today we have the pleasure to see the International
Society for Soil Mechanics and Foundation Engineering
beginning its important work.

I wish you all most welcome to Sweden and to this
meeting.

The questions you are going to discuss and to study are
vital in our modern society. We have also in our country
seen examples of the necessity to find the right solu-
tions to rising problems regarding soil and foundations.
How to estimate these prospects and risks must be of ut-
most importance, not only for keeping our present cities
and buildings intact but also for laying ground for
further construction and building.

Irrespective of these problems we must move ahead; you
can never turn the clock back. The need of higher build-
ings as well as underground works will always exist.

The problem of ground water is in many countries a
matter of life and death. Here we also have to take into
account the rising demands for a safe and good environ-

ment. Further research and study are necessary factors
also in this field. And exchange of ideas, facts and
experiences must benefit not only the participating
countries but the whole world.

These are really fundamental problems for our world, if
you allow me this expression.

I am sure you will have a good and useful congress.
I wish you all luck in your work and also a happy stay
here in Stockholm.

I declare now the 10th International Conference on Soil
Mechanics and Foundation Engineering opened.

S. Hansbo

WELCOME ADDRESS

Your Majesty, Ladies and Gentlemen,

We are extremely happy about being able to day to
cordially welcome you all to the Xth ICSMFE which we
trust will be the success we hoped for.

We must confess that when we in Tokyo offered to act
as hosts at the next international conference, we were
so carried away with enthusiasm that we did not foresee
the weight of the responsibility and the extent of the
work. I cannot but reveal that there have been moments
of misgiving among the members of the Organizing
Committee and fear that they would personally go
bankrupt if the Conference did not prove economically
safe and sound. The unfortunate death of Dr Leif
Andréasson, Director of SGI and an efficient and
enthusiastic member of the Organizing Committee, was
also a hard blow.

However, all our problems are now just history.

We are deeply honoured by the fact that your Majesty
accepted to act as patron of our Conference. We would
have been extremely disappointed, Sire, if you had not
accepted this our request.

However, allow me in this connection to remind your
Majesty of the greetings telegram which was sent to
you and Her Majesty, Queen Silvia, from the Swedish
delegates of the IX ICSMFE in Tokyo, on account of the
birth of Princess Victoria. I announced with emphasis
in my speech at the banquet of the Conference that a
Crown Princess of Sweden had just been born. So, in a
way we felt that Your Majesty had an obligation to
appear before the delegates at this very moment so that
all those delegates who were present at the Tokyo
banquet could have a close look at the proud father.

In his welcoming address at the opening ceremony of the Tokyo Conference, Mr Togashi mentioned the difficulties in international political and economic affairs which nearly rendered it impossible to hold the Conference in Tokyo. Unfortunately, since then these difficulties have grown, the economic ones in particular. Thus, members from countries with soft currency or in a bad economic state have had pronounced difficulties in getting enough financial support for coming. On the other hand possible political difficulties do not seem to have had any influence this time on the registration to the Conference. The Organizing Committee has done its best to help in cases where help was found to be absolutely necessary. We thought that the number of delegates from nearby European countries would go far beyond the number of delegates from distant countries. But the biggest delegation, except for Sweden of course, has arrived from Japan. I know from experience that our rich brothers from the Far East have done as I once asked them to do in my invitation - brought with them a lot of money to Sweden - in order to spend it.

The four years that have passed since Tokyo have been characterized by increasing distrust of technical development which is considered to be in the interest of profit rather than in the interest of mankind. I do believe that the reason for this is the astounding development of science. For example, at present 2000 A4-pages of scientific text appear in print each second. No wonder people feel lost and have fear of being manipulated. This distrust is of course a worry to the engineering profession, thus also to us geotechnicians. But in comparison with many other specialists in engineering we can consider ourselves a lucky lot. We are here to solve the problems of the soil, the ground to set foot upon - to build one's home upon - safe and secure. There is no human being who would not be terrified by the overwhelming experience of a landslide, especially if it occurs in a built-up area and brings about death and destruction. Any authority or person will then realize the need of geotechnical expertise and no costs will be spared to investigate the cause of the disaster. In this connection I would like to mention that, during this Conference, two films will be shown, one of the slide at Tuve near Gothenburg in 1977 with 9 victims and another of the slide at Rissa near Trondheim with 1 victim. It is an unforgettable experience to see one of the houses involved in the Rissa slide rushing past at a speed of 25 km/hour. Don't miss the chance of seeing these films.

The problems of slope stability and of landslides will be discussed in one of the Sessions at this Conference. This is a traditional type of problem dealt with at many geotechnical conferences. However, our ambition in the planning of this Conference has been to make it more practice-oriented than previously. We do believe that the best solution to the complex problems involved in geotechnical engineering will be achieved through a well-balanced combination of practical experience and theoretical knowledge. Only close cooperation between theoreticians and practitioners will lead to a fruitful development of geotechnical engineering and to a more economic building industry. The development of the applied sciences, such as geotechnique, is very much influenced by the advancement of measuring techniques which can now provide us with observational data of a type which we could not have dreamt of a decade ago. The times have passed when science was a matter of a single man's philosophic thinking - teamwork is the order of the day.

Although the main purpose of a conference is to spread knowledge about the state of the art, it has also

other purposes, namely to create personal contacts between the experts, to broaden the understanding of different cultures and to provide the delegates and the accompanying persons with an opportunity to spend a pleasant week or two in a new country. The post conference tours mainly serve this latter purpose. Unfortunately, there has been very little interest in the post conference tours which were planned to take place south of Stockholm. Thus for example all the efforts of our Danish friends to offer interesting and pleasant tours in Denmark were in vain. Everybody, it seems, wants to pass the Arctic Circle in order to see the midnight sun. It is true that I promised you, in my speech in Tokyo, that the midnight sun would throw its light upon you, so I am now desperately hoping for a steady, blue heaven. But you must not blame the others in the Organizing Committee for possible clouds which would hide the object of your yearning.

Dear colleagues and associates, enjoy yourselves in Stockholm - the Venice of the North - and have a good time. Heartily welcome to the events of this Conference!

Prof. Ralph B. Peck

MEMORIAL TO KEVIN NASH

Not the least of the contributions of the late Laurits Bjerrum to soil mechanics and this Society was his appointment of Kevin Nash as Secretary General following the Montreal Conference in 1965. For 16 years he became our Society's guiding spirit, mindful of its traditions, but working steadily for its greater growth in service, in international cooperation, and in prestige among the professional societies of the world.

Because Kevin Nash was also a Professor, because he was a consultant on projects throughout the world, and because he had a host of other interests, strict accuracy might require us to say that he was a part-time Secretary General. But because he was Kevin Nash, with boundless energy and with a rare ability to organize his activities, his contribution to our affairs was full-time indeed. Those of us who came to depend on him soon found that his devotion to our Society was complete, his preparation for every detail meticulous, his patience seemingly boundless, and his sensitivity to others remarkable. It is no dishonour to the successive presidents with whom he served to say that Kevin Nash made our Society function and was recognized as its mentor and authority. Yet he could fill this position without being in the limelight and without detracting in any way from the aims and programs of our Society's officers.

While Secretary General, Kevin Nash realized that many of the people who had participated in the beginnings of our discipline were still active members of our Society, with intimate knowledge of the early days of both soil mechanics and the individuals who created it. He saw too that this storehouse of personal knowledge was gradually slipping away. He knew many of these people as strong personalities and regretted the possibility that they might one day come to be known only as the authors of occasionally quoted references. He began, therefore, to seek out and to collect tape recordings and other mementos of these personalities. Some of these priceless records, such as Terzaghi's opening lecture for his final course in Engineering Geology at Harvard, are now part of our Society's archives.

He made a strenuous effort to seek out living members of our profession with recollections of the early days, and to persuade them to make a durable record. Recognizing that the Proceedings of many of our local and regional conferences were printed in very small editions, he made an effort to collect all these records. In these and many ways he preserved and protected our heritage and, for this, future members of our Society and our profession will be thankful.

It is not often that a superb administrator is at the same time a leader in his profession. Kevin Nash was at the forefront of soil mechanics. His long-time editorship of *Géotechnique* bespeaks his critical acquaintance with the development of our subject. His research was first rate and with a practical orientation. His consulting assignments were of the highest order. He was thorough, innovate, clever with techniques, always to the point, and utterly indefatigable.

Yet, to dwell on the contributions of Kevin Nash to our Society and to our profession and to emphasize his remarkable commitment to professional activities is to give a completely unbalanced picture of the man. With all his devotion to professional matters, he was overwhelmingly a man of friends and family. The Nash household, so often a stopping point for me when I passed through London, was always a scene of intense activity, often centered around music. It was never my good fortune to be present when all the family assembled for an orchestral evening, but I well remember an exuberant performance by Mel and three of the children, with Kevin joining in vocally when the music reached a climax. It was a fun evening, the likes of which were obviously frequent. Kevin and Mel, their three daughters, their son, and their parents enjoyed, respected, and supported each other. Kevin's letters to me, quite a few now over the years, never failed to bring me up to date on the activities of his family, of which he was indeed proud.

It was on his 59th birthday, after a gathering of the family, that Kevin slipped away from us. As a part of his expanded family of members of this Society to which he gave so much, and with Mel and David who are with us now, let us stand in a moment of gratitude for having known him and having shared a part of his life.

The President of ISSMFE Prof. Masami Fukuoka then invited Mrs. Mel Nash to come up to the rostrum and said:

At the Executive Committee Meeting it was resolved that a plaque should be presented to Mrs. Mel Nash with the following inscription:

IN MEMORY OF
PROFESSOR J.K.T.L. NASH, 1922-1981
TEACHER, RESEARCHER, MENTOR, FRIEND
WITH RESPECT FROM HIS COLLEAGUES THROUGHOUT THE
WORLD
THE INTERNATIONAL SOCIETY FOR SOIL MECHANICS AND
FOUNDATION ENGINEERING
TENTH CONFERENCE, STOCKHOLM JUNE 1981

The President then presented the plaque to Mrs. Nash who responded with the following:

First I want to thank Professor Peck for his most gracious Memorial to Kevin, and the Conference Organisers for their kindness in inviting David and me to come to Stockholm to hear it delivered.

And now, Professor Fukuoka, thank you for presenting me with this beautiful Plaque in Kevin's memory, and for the

letter of sympathy signed by all those present at the Executive Committee meeting. This particularly delighted me as Kevin - and I also - have valued so highly the many friends we have made the world over in the course of his time as Secretary General. As I think you all know, the ISSMFE was very close to his heart and he believed the Society had a very significant contribution to make to international understanding. I know that this was uppermost in his mind as he worked on the preparations for the Conference right up to the day he died.

Presidential Address/Discours du Président

Professor Masami Fukuoka

Your Majesty, Distinguished guests, Mr. Chairman,
Ladies and Gentlemen

On this occasion at the opening of the 10th International Conference on Soil Mechanics and Foundation Engineering, I as the President deem it the highest honour and also a great pleasure to speak to you.

INTRODUCTION

The 9th International Conference on Soil Mechanics and Foundation Engineering was held in Tokyo and, at that time, I as the Chairman of the Executive Committee and also the President of the Japanese Society of Soil Mechanics and Foundation Engineering, was involved in the preparation and management of the Conference. From my experience then, I felt it was very difficult to manage successfully such a large-scale International Conference as that held in Tokyo. I would like to pay my highest compliments and express my sincere appreciation to the Swedish Society for having surmounted so many difficulties over the past four years which has enabled such a splendid Conference to be opened today.

Sweden is a country in need of natural resources and its climate is chilly and so it cannot be said that Sweden is a country greatly blessed by Nature. However, it is splendid to see that Sweden has succeeded in developing a successful Welfare State, despite Nature, by making use of the nation's resources of wisdom and labour.

I think that all the participants here know that during the early years of this century there were major landslides as a result of which railway trains fell into a lake. There was also the landslide which occurred at American Wharf in Goteborg. As a result, detailed investigations and researches based on soil mechanics were undertaken with the main purpose of establishing safe slopes. Since then, this country has produced a large number of engineers in the field of soil mechanics and foundation engineering and also made great contributions to that field.

The 3rd International Conference on Soil Mechanics and Foundation Engineering was held in Switzerland in 1953, and I attended as one of the delegates on behalf of the Japanese Society. After this Conference ended, I went to Sweden to study at the Swedish Geotechnical Institute the director of which, at that time, was Mr. W. Kjellman. I received the help of many people and had a very useful and happy life for a year. I should like to take this opportunity to express my sincere appreciation for the kindness extended to me at that time.

Next to Japan, Sweden is the country where I lived for the longest period of my life. I therefore feel I have a good knowledge of the people and circumstances of this country. It can certainly be said that the participants

at this 10th International Conference of the International Society for Soil Mechanics and Foundation Engineering are fortunate that it is being held in a country like Sweden where soil mechanics and foundation engineering have been highly developed. During the sessions of the Conference and the post-Conference tours, I look forward to seeing the Swedish contributions to soil mechanics and foundation engineering which are acknowledged to rank among the foremost in the world.

PREDICTION IN SOIL MECHANICS

When I was elected President of the ISSMFE four years ago, and I pondered on the duties of President, our late Secretary General, Professor Kevin Nash, suggested to me two items for consideration which were

- (1) to select the Sub-Committee members and set up the Sub-Committees and
- (2) to prepare for the opening of the 10th International Conference

At the beginning of my term of office, it was necessary for me to see and reflect on those matters which had been discussed at the IX ICSMFE, to consider what conclusions had been drawn and also what had been left unconcluded and which remained as problems to be considered at this Conference.

We had four main sessions at the Tokyo Conference and at the first session the matters of stress, strain, strength and properties of soils were taken up, the General Reporter being Prof. C.C. Ladd. The behaviour and interaction of the structure and the foundation was the subject of the second session at which Prof. J.B. Burland (our present Secretary General) was the General Reporter. At the third and fourth sessions, the subjects considered were slope stabilization and the dynamic properties of soils and the practical implications of these to foundation engineering. The General Reporters for these sessions were, respectively, Prof. N. Morgenstern and Prof. Y. Yoshimi.

Prof. Ladd remarks in his state-of-the-art report that "In order to improve the methods of design analysis it is necessary first to have better evaluation of soil parameters. Actual behaviour is predicted by calculation with the soil parameters which are put into the model. This is a very complex topic but it will some day produce a major breakthrough in design capability". It is important to carry out tests in situ as well as in the laboratory.

The subject of foundation settlement was taken up, and various case records were presented at the main session No. 2. Judging from these cases, it was clear that many engineers were very interested in this topic. At the main session No. 3, someone advanced the pessimistic opinion that apart from the matters of incipient landslide mecha-

nism and landslides in clays, it was very difficult to predict landslides caused by rainfall on natural slopes, such as mountainsides in Hong Kong and knowledge about soil mechanics was of no use.

To sum up we can say that the task of soil mechanics is to determine soil parameters by means of in situ testing and also laboratory testing of samples and to develop calculation formulae by modelling the structures to be actually built and then to predict the behaviour of the structures by putting the soil parameters into the calculation formulae. If the prediction is accurate, the structure can be designed with a comparatively small margin of safety but, otherwise, a larger safety factor would need to be used in the design, which might well result in excessive over-dimensioning and would also result in a big financial loss. If the basis of prediction is incorrect the less critical parts of a structure may be over-designed while the more critical are under-designed. Accordingly, even if failure does not occur, unacceptable large deformations may result either during or after construction. Consequently, the accuracy of prediction needs further improvement. In Japan, large suspension bridges are presently under construction between Honshu and Shikoku and this is a national project. The bridge piers are as large as 70m x 70m in size and those bridge piers must be designed so as to withstand earthquakes.

It is necessary, furthermore, to make very accurate predictions of the settlement and the deformation expected to be caused by earthquakes. Every means available at the present stage of development of soil mechanics and foundation engineering is being used on that project. Drs. T. Kimura and N. Adachi, the engineers who are engaged in this project, both felt that if an International Conference were to be held whose main theme was how to improve the means of prediction, it would help many engineers who are engaged in those problems. They suggested to me that this matter should be considered seriously. In view of my experience at the 9th International Conference, I agreed with them and proposed to the Conference Advisory Committee at their meeting held during the period from January to March, 1978, that this matter should be taken up and the Committee endorsed this view.

WELL-DOCUMENTED CASE HISTORIES

Meantime, upon reviewing the papers read at the Tokyo Conference, I found that there were many papers indicating that the predictions agreed with the actual observations. This is a tendency seen not only at the Tokyo Conference but also found at other meetings where papers are presented and in technical journals as well. It seems to indicate that many persons think it is impossible to prepare a paper unless the predictions agree with the data obtained by actual survey.

It may be true that there are some discrepancies between predictions and observations even when it is claimed that both agree with each other. If the discrepancies are within the permissible tolerance there will be no problem, and in that case a statement in the paper that there was no discrepancy is justified. However, there are many cases where large discrepancies were found. At the beginning of a very large construction project, a lot of time, money and labour are spent on preliminary investigation and testing, and on the basis of the results, prediction and design are carried out, and the construction works are commenced. During and after construction, the structure is surveyed and its behaviour recorded by using many types of measuring instrument. Even if we have made predictions, we would very rarely be able to predict all the data obtained by using the instruments; in other words, only part of the data obtained by using the instruments can be estimated by prediction. The data obtained

by actual survey should be examined after the construction has been completed to check whether those data agree with the predictions or if any disagreement has become apparent. In the latter event it is necessary to search diligently for the cause of the discrepancies and, by so doing, learning will progress.

However, when construction works have been finished without any difficulties having arisen, matters come to an end without any data being examined to see whether observations have indeed turned out as predicted and what discrepancies have emerged. By applying a method of analysis developed during a particular construction project or research programme to another construction project and subsequently checking the results of investigation and testing, there may be cases where the validity of the method of analysis can be ascertained by this procedure. In those cases where the data obtained from investigation and testing and from the results of actual survey of the structures' behaviour, during and after construction work are complete, I call them well-documented case histories, and such data should be recorded in an unedited form.

Even if these results involve scatter, such data should be recorded as obtained and in any cases where the instruments set up in the structure were out of order, the records should indicate this explicitly. As mentioned above, if the researchers examine carefully such well-documented records, it should be possible to determine where and how to modify procedures in order to improve the accuracy of the data for prediction. If such records are examined not only in a single isolated example but also in a wide range of cases, general methods of prediction or design may be established.

The publication of such case histories presents difficulties. There was a very heated discussion at the Executive Committee Meeting held in Istanbul in connection with the allocation of pages for papers read at the 9th International Conference. Prof. Kerisel, the then President, proposed a rule for the allocation of pages. In accordance with this rule, the quota of pages allotted to each National Society was fixed, and each National Society allocated from 2 to 12 pages to each person. The most common number of pages allotted is four and there are many National Societies which allocated four pages and over. In such circumstances it is hardly possible to expound the methods of prediction and detailed points connected with survey and observation. Even if it was reported that the method of observation was proper, there are not means of checking whether it was correct or not. We received a large number of contributions from many Japanese enterprises when the Tokyo Conference was held. Thanks to their support, there was some money left over after the conference. It was my belief that this money should be spent for the most useful purpose of developing soil mechanics and foundation engineering, and it would be a way to repay their kindness. Even though it was the money remaining from the Conference, the rules required that it be used only for the Tokyo Conference and it was not permitted to spend it for any other purpose. I therefore proposed to make a collection of well-documented case histories based on the discussions at the Tokyo Conference.

It was fortunate that we were able to obtain the approval of the Ministry of Finance of the Japanese Government and the consent of the Japanese Society of SMFE for disbursement of the money for that purpose. A Committee was set up under Prof. G. Kuno's direction and we asked not only the Japanese Society but also other Societies in the world to contribute papers for that collection. As a result, 22 volumes of papers were collected and the proceedings consisting of 1012 pages were compiled. The average

number of pages per paper was about 50, and the longest had 76 pages. At the outset I aimed for papers with an average length of 100 pages, but this proved to be a vain hope.

The total expense incurred by publication of this Case History Volume was about 47,000,000 yen (or US\$220,000) and the lesson was well learned that such publication work requires very hard labour.

The first paper compiled in the Case History Volume was contributed by Prof. R. Peck, a past President, and he writes in the first part of his paper of "Case Histories in Soil Mechanics" as follows:

"Case histories have played an essential role in the development of modern soil mechanics. Although they have been useful in many other disciplines, the complexities of natural soil formations, the many factors influencing the properties of soils, the practical limitations of sampling and testing, the vagaries of groundwater conditions, and the great variety of construction equipment and procedures ----- all these contribute to the need for reliable case histories. Without them, the applicability of theories of soil mechanics could not be evaluated. Moreover, without them judgement growing from experience could not be transmitted from one engineer to another or from one generation to another."

The above quotation from Prof. Peck's paper embodies a philosophy which he has put forward both in papers and discussions for many years, namely the importance of case histories to the development of our discipline.

The second paper was written by Dr. E. D'Appolonia and entitled "Coping with Uncertainty in Geotechnical Engineering and Construction".

When the Executive Committee meeting was held in Moscow in 1973, I discussed with Dr. D'Appolonia ways in which we could make an International Conference held under the auspices of our International Society interesting. As a result of that discussion, I set up Specialty Session No. 3 at the Tokyo Conference with the theme "Relationship between Design and Construction in Soil Engineering" and Dr. D'Appolonia accepted my request to act as Chairman of that session. Dr. D'Appolonia, who was engaged on construction works as a consultant, took up the points at issue of prediction and actual observation, on the basis of his experience, and various other engineers also contributed to that session. About 22 years ago I had the problem of estimating the earth pressure on a cantilever retaining wall using the results of conventional soil testing and for that purpose I consulted famous professors and engineers of soil mechanics in Japan. However, it was impossible to predict the wall friction and the earth pressure and shear forces on the upper and lower sides of the base. I decided finally to examine the methods of determining resultant earth pressure and friction force, and I tried to use an actual retaining wall for that purpose.

Part of the result of that investigation is reported in the Case History Volume. In conducting this test I came to realize most vividly just how difficult the prediction of earth pressure was. Both the properties of the foundation ground surface and the structure of the retaining wall itself exert an influence on the earth pressure. Finally I came to believe that the general study of earth pressure on retaining walls should start with the collection of well-documented case histories.

STANDARDIZATION OF SOIL TESTING

Now I shall return to the topic of the Conference Advisory Committee meeting held at the beginning of 1978. At that meeting it was proposed that a session held for such a purpose as that mentioned above should be called "Prediction and Performance", and Dr. D'Appolonia was again assigned to be Chairman of that session. It will be appreciated that in order to prepare and evaluate case histories, soil parameters from both in situ and laboratory tests are required. Each National Society has its own standard methods of soil testing, but they have not yet been standardized for use on an international basis. It is vitally necessary to set up uniform soil testing procedures so that case histories can become the common property of engineers world-wide.

If the methods of determining soil parameters are not standardized, the mere exchange of information could be meaningless. Shearing tests and consolidation tests on soils are the oldest and the most important, but the current situation is that each laboratory or even each technician has their own test procedures. Shall such a situation really be left unimproved? Some researchers contend that it is impossible to obtain accurate results by methods other than their own. Even if this were true, it is impossible to call it a proper technique unless it can be copied by others. It will never be different from the carpenters' perception in the feudal age. I like to call such work "technical skill" instead of "technology", and the testing methods themselves need to be simple to some extent. Of course some accuracy in the results may have to be sacrificed if the methods of testing are to remain simple. In such cases the test results may need to be revised for use in design by the exercise of engineering judgement. Would it not be better to use such a procedure as this when designing construction works on a commercial basis? Even though the accuracy of prediction might be inferior at the design stage, in these days of advanced measuring techniques, soil parameters can be back-calculated from observations taken during the early stages of construction. Furthermore, the subsequent stages of construction may be based upon a use of these soil parameters. This way of advancing is certainly the most practicable and economical in many cases.

If the degree of uncertainty can be reduced by studying many collected case histories then construction works can be undertaken safely and economically except when a novel type of construction is involved. However, even then if measurements are available in the form of well-documented case histories, they will serve as good references for other construction works.

It is arguable whether laboratory testing should ever be done using a testing machine which produces data on a mass production system. There are many people who have a prejudice against such an approach. It is impossible to predict with 100 per cent accuracy from laboratory testing. The more sophisticated tests we demand the more money and labour we need, and the number of samples which can be handled within a limited budget and time, will decrease. If the ground stratigraphy is complicated, it may be necessary to predict with a few samples taken for testing from this large heterogeneous mass of soil the combined behaviour of the stratum and structure. It will in these circumstances never be possible to utilize the modern theory of probability in the design procedure. These are the reasons why it has been decided to take up the subject of laboratory testing in session No. 4. As we have, of course, no intention of excluding discussion on new testing methods, it is requested that participants engage on discussion of this matter too, if they wish.

At the Executive Committee Meeting held at Oaxaca in 1979 I established the Field and Laboratory Soil Testing Committee. The Committee, the Chairman of which is Prof. Smolczyk, aims to prepare a manual and they are actively working in this direction, for which I should like to thank them very much. Moreover, our International Society undertook to prepare a draft standard on soil testing in connection with the preparation of the Eurocode of the EEC, and as seen in the above activities, work for standardizing soil testing is advancing.

SOIL PARAMETERS FOR DESIGN

The theme of "How to determine Soil Parameters" was presented at the 7th European Regional Conference held at Brighton in September 1979. I dare to say that it is a subject which grapples squarely with the most important problem which current soil mechanics confronts. I hope the thread of discussion begun at Brighton will be taken up at Session No. 4 of this Conference. Dr. Northey gave the special lecture on risk in geotechnics at the Australian Geomechanics Conference held in 1980. In that lecture too, the points at issue were how to determine soil parameters and how the method of prediction and its uncertainty would relate to risk in construction. It was emphasized that the solution of this problem would be of extreme importance. These problems were also taken up at each of the five Regional Conferences held since the last International Conference.

Twelve technical sessions are scheduled to be held at this International Conference and it is not possible to make detailed statements owing to the time element about sessions other than Nos. 1, 4, 7, 9 and 10, but each session has been prepared sufficiently to indicate the procedure it will adopt led by the Chairman and the General Reporter. It is expected that discussion will develop concerning the nature and reasons for discrepancies between predicted results and actual observations and also more generally to the end of improving our understanding of the subject treated at each session. I am sincerely looking forward to seeing fruitful results from these discussions.

SOIL SAMPLING AND SITE INVESTIGATION

If the methods of soil sampling are not satisfactory, samples are disturbed and the results of laboratory testing using such samples would be meaningless. The Soil Sampling Sub-Committee had continued its vigorous activities during the period when the late Dr. Kallstenius acted as its Chairman and they achieved great results. In Sweden, soil samplers are standardized and anyone can obtain a reliable undisturbed sample of clay whenever he wants.

I hope soil sampling methods may be standardized on an international level, but as I thought it was hardly possible to do so at one stroke, it has been decided to prepare a sampling manual. The Sampling Sub-Committee under the Chairmanship of Dr. Mori has grappled seriously with this task during the past four years and has recently completed the preparation of a sampling manual for clay.

I would like to express my sincere appreciation to Dr. Mori and all the members of the Sub-Committee for their efforts, and I hope each Society will make full use of this manual. As it has recently become clear that any disturbance of sand has an important influence on its liquefaction potential, the matter of undisturbed sampling of sand has gained in importance. I hope that the Sub-Committee will extend its activities to cover sand sampling and, moreover, deal with the problems of sampling other types of soil. The Site Investigation Sub-Committee is active and vigorous under the combined leadership of Mr. S. Wilson, the Chairman, and Mr. Ohya, its

Secretary, and it is scheduled to complete a manual around this Fall. We look forward with keen anticipation to its completion.

The European Committee on Penetration Testing, under the Chairmanship of Prof. Broms (Vice President for Europe), presented their report at the last Tokyo conference and this has been very much in demand. The work of this committee has continued and if it expands its activities to include other regions besides Europe it will of course be necessary to rename it.

This is an appropriate time for me to report on the successful production of the Lexicon. This detailed listing in eight languages of the terms and symbols commonly used in Soil Mechanics is a most valuable document and has been beautifully published. We owe a debt of gratitude to those people listed in the acknowledgements for the efforts that has gone into its preparation and production. I should perhaps mention that the Soil Sampling Manual, Lexicon and other documents produced under the auspices of our International Society are available at this Conference and they reflect very well the benefits that accrue from the activities of our Sub-Committees.

ACTIVITIES OF VARIOUS COMMITTEES

The topic to which I should now like to turn my attention is the activities in the various Committees. When I was elected President, unlike other former Presidents, I had no knowledge of the actual results achieved by the specialists in the world and their activities. I asked the late Prof. Nash to request each National Society to put forward names for membership of Committees and as key-role persons of the International Conference. I think that the National Societies might have been perplexed by this request, as they had had no such experience before. There were some National Societies which did not respond to our request, and some Societies replied too late after the appointed date.

I selected the Committee members and key-role persons based on the reports from the National Societies. I learned from the information sent by the National Societies that there were many people willing to serve our Society as Committee members and in other key roles. I confess I was very surprised by this. I received also a protest from a Society asking why none had been selected from their membership. I have therefore tried to increase the number of Committees as far as possible. The existing Statutes of our society provide that with the consent of each National Society the President has authority to set up at his discretion any Committee. However, some leading members are of the opinion that the number of Committees should not be increased unreasonably. A Committee which the President believes should be established does not always attract others' interest. The questionnaires used to canvass the members' opinions are not always effective, but it is a feature of this Society that the best way to learn the members' opinions is during the time when the Executive Committee meeting is held every two years.

The Field and Laboratory Soil Testing Committee was set up by a decision made at the Executive Committee meeting at Oaxaca, but the term of office of this Committee's members expires at the same time as my term of presidency. In other words, it is only two years after the Sub-Committee was set up (Statutes 24). This is extremely unreasonable. I think it would be better if the question of the setting up of a committee was considered not only by the President but also by the members of the Societies.

Also, I thought it would be desirable that an organization or a committee should be set up to deal specifically

with the establishment and dissolution of (Technical) Committees, publication and dissemination of their findings, financial control, and other pertinent matters which would assist the President in the discharge of his duties. It would be quite natural for various requests to arise from among the organizations of our Society which has over 14000 members from 54 countries.

It is therefore necessary to set up Committees with various functions to meet such requests. I thought that some organization to take care of those Committees should be established, and this organization was provisionally named "Steering Committee for Technical Sub-Committees". The Executive Committee has already discussed this matter, and the Steering Committee was established.

I would like to ask each leading National Society to agree to take charge of at least one such Sub-Committee. I also suggest that persons in one area become its members, and people in other areas might participate in the Committee's activities as observers. (Just like the Sub-Committee for Foundations in EEC).

This is a proposal which I should like considered.

RELATIONSHIP BETWEEN THIS INTERNATIONAL CONFERENCE AND REGIONAL CONFERENCES

Five Regional Conferences have been held since 1977, namely, the 6th Asian Regional Conference held in July 1979; the 7th European Regional Conference in September 1979; the 4th Pan-American Regional Conference in December 1979; the 3rd Australia-New Zealand Geomechanics Conference in May 1980 and the latest one, namely, the 7th African Regional Conference held in June 1980.

In addition to the above Conferences, the 5th and 6th Danube-European Conference which cover a small region were also held. The International Symposium on Soil Mechanics was also held in connection with the Executive Committee meeting held in Oaxaca. I am very pleased to report that all these Regional Conferences were held successfully without trouble thanks to the efforts of those concerned.

As President, I have been able to attend all these Conferences and it might have been impossible for me if warm support for travel expenses and hotel charges had not been extended by the Japanese Society of SMFE, the host countries, and other parties concerned, to all of whom I would like to express my sincere appreciation. The relationship between Regional Conferences and an International Conference is very close, and because co-ordination of the activities is essential, it is provided that the Secretary General shall act as co-ordinator.

However, problems do arise and adjustments do not always proceed smoothly. I think it should be a matter of principle that each Regional Conference examines problems peculiar to that region while problems common to several regions are taken up at the International Conference.

The subject of Problem Soils was taken by the African Regional Conference as its theme. There are soils in Africa which are unique to that region. It was very appropriate that the question of how to deal with such soils was adopted as the central theme of that Conference.

There are some types of soil among such Problem Soils which are common to a number of regions. Laterite is an example of such a soil which has already become a subject of regional discussion. Should it not also be a subject which may be taken up for discussion at an International Conference in due course?

An International Conference may take up a matter in which a host country is particularly interested. The topic of Saving Cities and Old Buildings, which is scheduled to be discussed at this International Conference, is a good example. Besides the above, many conferences, symposia, workshops and seminars are being held world-wide. Cases have been increasing where an offer of co-sponsorship to our International Society have been made. I think each offer should be examined individually and if it is concluded that it is advisable to do so, then such an offer should be accepted.

CONCLUSIONS

I have acted as the President of the International Society for Soil Mechanics and Foundation Engineering for the past four years. The period of four years seems to be long at first sight, but it is not really long when we try to do something new. The four years have passed in a moment and my remaining term of presidency is only a week. I have been very pleased to have had such very fine support extended by the Vice-Presidents, the late Secretary General, the Chairman of each Committee and our Society members during that period. Thanks to the splendid efforts of the Swedish Society and its Organization Committee, this International Conference of Soil Mechanics and Foundation Engineering has started very smoothly, for which I would like to express my sincere appreciation.

What I have often thought during these past four years is that through collaboration and understanding in our activities in the field of soil mechanics and foundation engineering we can do much for the peace of the world. As I have come to hold various opinions about different matters, I have expressed these at any opportunity available and made reality of them whenever possible. In my Presidential Address I have given expression to my past experience and my way of thinking.

The new President was elected at the Executive Committee Meeting held the other day. I sincerely hope that the Society under the new President will be prosperous hereafter as well, and I shall be very happy if this Presidential Address proves of some little use to you all.

Thank you.

Banquet

Stockholm City Hall/l'Hôtel de Ville de Stockholm, June/Juin 18, 1981

Prof. Sven Hansbo, Chairman, Organizing Committee

Mr. President, Ladies and Gentlemen

The banquet of tonight was meant
to be the last event
of our Conference
but due to old traditions
held sacred by the Swedes
it was impossible to have it so
You will find out the reasons
tomorrow, Midsummer Eve,
when everybody in this country
will lose their minds
and sing and dance
through all the night
released from wit and duties
But we believe; tonight is just as good
as if it were tomorrow

You find yourself just now
where winners of the Nobel Prize
the men of genius
assemble to attend their banquet
and this I trust
gives atmosphere to the place
located nicely on the shoreline
where long ago
the ships of Vikings came in sight
reminding of the Conference symbol

We trust that you will all enjoy
the delicacies of our table
the courses representing what
is typical of Sweden.
Wines from the South, delightful taste!

May our banquet
be the way we want
the climax to a week
for delegates engrossed with work
and for accompanying persons
a week that has come up,
we trust, to their expectations

Ladies and gentlemen
enjoy your meal
and please yourselves
Be welcome!
Skål

Prof. Masami Fukuoka, President, ISSMFE

Mr. Chairman, Ladies and Gentlemen

It is my great pleasure and honour to speak on behalf of the International Society of Soil Mechanics and Foundation Engineering at this splendid banquet provided by the Swedish Organizing Committee. I would like to express our sincere gratitude to the organizers, Professor S. Hansbo, Chairman, Dr. U. Lindblom, Secretary General, Professor B. Broms, Vice-President for the European Region, and others, who worked for the Conference. The Conference was commenced by the Opening Ceremony, honoured by the presence and the address of His Majesty King Carl XVI Gustaf, and has been proceeding very smoothly since that occasion. I would like to congratulate you on the great success.

Ladies and Gentlemen, Sweden could be called my second native country. This is because I studied soil mechanics and foundation engineering here in 1953-54 at the Swedish Geotechnical Institute, the director of which was then Mr. W. Kjellman. I cannot forget those happy days with so many kind and good friends.

The Swedish Organizing Committee invited us to the home hospitality. My wife and I could visit Mr. O. Wager's home and we could renew our old friendship. I imagine that all of you were able to feel the touch of the warm hospitality of our Swedish friends.

The purpose of the Conferences is to promote international cooperation among engineers and scientists for the advancement of knowledge in our speciality. But it is also important to learn to know each other on these occasions. The banquets give maybe the best opportunity for this purpose. I would like to thank the organizers for providing us such a splendid banquet.

Closing my speech, I would like to thank both the organizers and participants. Tack så mycket!

Closing Session

Séance de Clôture

June/Juin 19, 1981

Prof. Masami Fukuoka, President ISSMFE

Ladies and Gentlemen

This outstanding 10th International Conference on Soil Mechanics and Foundation Engineering is going to close in a short while.

There were two major items of concern during the early stages of preparation. The first was the world economic climate. If a severe world wide recession were to have taken place, the Organizing Committee would have had to bear the financial loss themselves. The second was the fear of international sanctions preventing some delegates attending. Both these fears have proved to be unfounded. About 2000 delegates, including accompanying persons, have attended our Conference.

Amongst these people is one who has attended every conference since the First International Conference in Boston in 1936. His name is Professor Christian Veder from Austria. We all wish him a good health so he can join us also at the next Conference.

The present Conference was organized so that there were 12 Technical Sessions with 3 sessions operating simultaneously. Each session was provided with simultaneous translation in English and French. I know that you will be pleased to hear that the Executive Committee agreed overwhelmingly to keep both English and French as official languages of the Society.

I know that the Organizers were very worried that some of the Technical Sessions would have a very small attendance. The efforts of each Session Chairman, Co-chairman, General Reporter, Co-reporter and Panelists have ensured that the Sessions were lively and full of interest. The Technical Secretaries guaranteed that the Sessions have run smoothly and we owe them a special debt of gratitude. We have also had the honour to listen to two outstanding special lectures given by Professor A.W. Bishop and Professor H.B. Seed. These two lectures will stand as milestones in the Proceedings of the International Society.

As your President, I have laid great emphasis on the technical work of our sub-committees. The chairmen and the members of these have been very active and achieved a great deal as you will see when you read the minutes of the Executive Committee Meetings.

Under the Chairmanship of Dr. H. Mori, the Sampling Sub-committee has produced a very useful manual of soft clay sampling which has been available at this Conference.

The Sub-Committee on Symbols and Units has after years of work produced a very beautiful Lexicon in 8 languages with the help of the Canadian National Society. Moreover, in a short while we hope to publish a 500 page Site Investigation Manual. These publications are very important to our Society. However, they involve financial risks. I hope that all of you will cooperate in buying copies yourselves and in helping to promote their sale.

We have seen a valuable development in the activity of sub-committees with the formation at this Conference of a Sub-Committee on the Use of Centrifuges in Geotechnical Model Testing. Thus, we see sub-committees developing as a means of bringing people together with a common research interest as well as those with a common practical interest.

One of the aims of our International Conferences is to act as a clearing house of results from technical activities. Thus, the work of the sub-committees and the technical sessions are very closely related. This Conference has been very successful in this respect.

Now I would like to tell you about a very important decision taken at our Executive Committee Meeting 1981. Up to now the Executive Committee Meeting has been the only occasion at which the administration of our Society could be discussed. This places a very heavy burden on our Secretary General. At the Executive Committee Meeting just held, a decision was taken to set up a Steering Committee consisting mainly of the Officers of the Society. This Committee will be responsible for the efficient administration of the Society including the coordination of the technical sub-committees and the detailed examination of policy matters. It also has the task of selecting Secretary General.

At this time I would like to pay a tribute to Professor John Burland. Immediately following the death of Professor Kevin Nash, he took over the job in spite of many other commitments. Within a month he had got to grips with the complexities of our Society. The smooth running of our Executive Committee Meeting was largely due to his efforts and I am able to hand over the new Presidency with no major problems. We all join in thanking Professor Burland most sincerely for his help.

I also want to pay a sincere tribute to Professor Sven Hansbo, Chairman, and to Dr. Ulf Lindblom, Secretary General of the Organizing Committee, and their team for a wonderful Conference.

Now I would like to introduce our new President, Professor Victor F.B. de Mello, who has been elected as the 8th President of our Society.

Professor de Mello was born in Goa, India in 1926. Actually he is 9 years younger than me and I expect him to breathe new and vigorous life into our Society. He studied soil mechanics at M.I.T. under Professor Donald W. Taylor, and got his B.Sc. in June 1946, M.Sc. in September 1946, and his D.Sc. in December 1948. His major international activities include past Vice President of both ISRM (1970-74), and ISSMFE (1973-77), State-of-the Art Reporter and Guest Lecturer at many national, regional and international conferences, Rankine Lecturer in 1977, and elected Foreign Associate of the American Academy of Engineering in 1980. He is now Tenure Professor at the University of Sao Paulo, Brazil, and a very active consulting engineer.

The Executive Committee has made a very wise choice of President for 1981 to 1985.

Now I want to hand over the symbol of the presidency. This gavel was presented to our Society by the Norwegian Society in 1961. It is made from a pile used to support a church constructed in Norway in the 11th century. It is the first time the gavel has been taken south of the Equator.

Professor de Mello, please receive this gavel. I feel sure that the Society will prosper under our new President.

Thank you very much! Tack så mycket!

Prof. Victor F.B. de Mello, President Elect

Mr. Chairman, Ladies and Gentlemen

I can hardly express how deeply I feel the honour of having been elected President of our dear International Society, even though I can humbly claim to have dedicated myself intensely, throughout my career, to her aims, embodied in the key-words International, Geotechnical, and Engineering. In thanking each and all of my colleagues for entrusting me with this most prestigious post, I cannot but confess that the thought of being called as successor to Terzaghi, Skempton, Casagrande, Bjerrum, Peck, Kerisel, and Fukuoka, would frighten me, were it not for my real desire to be of greatest possible service, and principally for the comforting conviction that I will continue to rely on the kindness of the many good friends who saw and see the promise of such intent. I enjoyed the special privilege of being seduced into internationalism, engineering, and geotechnical specialization, not merely by the professional merits of some of those leaders, but also principally by their human stature. And at this Stockholm conference which we now close with every grateful thought to our hosts, I pledge myself to the human values of youth, brotherhood, and service, that geotechnical engineering fosters.

Indeed, we embrace a profession in order to better fulfill ourselves as human and social beings. Within our profession of civil engineering we delve into a specialization in order to better fulfill ourselves as professionals: we may even need to restrict ourselves within geotechnique to a subspecialization, but only so in order to further fulfill ourselves within our calling as human beings. Let us never lose sight of the order of priorities in such allegiance, since specializations are meant for the betterment of Society, through us and despite our deficiencies, and never to the detriment of our fulfillment as world citizens. Geotechnical engineering is of service to all of civil engineering.

I need hardly emphasize that youth may be defined as a period of life within which intrinsically ("par excellence") the proportion of things unknown, to things considered known, is relatively high. Well, the wonderful thing about the modern world's rate of change, and about our profession, is that we can be forced to feel young irrespective of physical age. I am sure all of us from 8 to 80 were curiosity itself and exhilaratingly young as we saw the Norwegian movie of the incredible quick-clay slide. Let us cherish forever the exhilarations of youth, of curiosity, of observation, of questioning, and of rediscovery, that geotechnique and the magnificent heterogeneities of Nature so lavish upon us. As engineers we should always be prepared for pleasure in surprises, though hopefully not for dismay.

Across oceans and between antipodes Nature reveals her miraculous ability to guarantee an infinitesimal probability of any two situations, or any two persons, being entirely alike. Yet a more magnificent fact is that she preserves the principle of our being fundamentally alike, as brothers, and of situations being groupable as sufficiently alike so that the beauties of engineering principles may be built without need of the dismal arbitrariness of homogenization. Wonderful it is that we find brother-souls that have learnt and taught us to delight in cherishing differences, because it is from differences that derives our cognizance and culture. In the same way as we enjoy and cherish the beauty of the multitudinous varieties in flowers, birds, leaves, fish, and insects, let us continue to enjoy in geotechnique, and at these

meeting-places of true internationalism, the most wonderful fact that we and our experiences are each and all different, and yet fundamentally alike.

You will pardon me a note of nostalgic return to Boston, host of the first international conference, that at the end of my period of office will be commemorated in the golden jubilee conference in San Francisco 1985. By a very odd coincidence on Saturday the 13th of June at 5 p.m. when I had the privilege of being elected it was exactly 35 years to the very hour, since President Compton of M.I.T. gave me my B.Sc. diploma at the so-called Initiation Exercises, and I joined the many engineers who looked forward with eagerness to building the "brave new world". I dedicate this moment to the memory of Professor Donald Taylor and to my Alma Mater, M.I.T.

As Chairman it will be my eager concern to express the desires of the majority, without treading on the wishes, needs or rights of the minorities.

Chers Collègues, je voudrais terminer ce message avec quelques mots en français tout en m'excusant de ne pas employer cette langue comme elle le mérite. J'appartiens à une minorité linguistique actuelle, parce que ma langue maternelle est le portugais et notre Région sudaméricaine pourrait d'abord souhaiter l'emploi de l'espagnol. Comme citoyens du monde, il nous faut préserver le principe du plaisir des différences culturelles: les mots, les idées, les associations d'idées, les expressions les plus développées de l'évolution neurologique de l'homme, nous prêtent tous le ravissement des multiples variations. Néanmoins, comme ingénieurs, obligés de trouver toujours des solutions pratiques, nous nous contentons de deux langues pour préserver ce principe.

A vous, qui, par le vote, avez exprimé votre préférence pour mes illustres collègues, candidats comme moi à la Présidence, je vous remercie également de l'enthousiasme pour les différences manifesté dans l'exercice du choix. A vous tous qui voudrez bien m'aider avec des idées différentes des miennes au sujet de ce que vous attendez de cette Société, je déclare honnêtement que je suis plus enchanté par des idées nouvelles, différents des miennes, dont j'ai été souvent éperdue, mais dans lesquelles je me suis perdu maintes fois.

Ask not what this Society can do for you without thinking first what you can do for the Society. I assure you I shall do my best to put your efforts to fruition, with the help of the wonderful team of newly elected Officers. Thank you, "au revoir".

CONCLUSIONS FROM TECHNICAL SESSIONS

Prof. Sven Hansbo, Chairman of the Organizing Committee

Ladies and Gentlemen,

In my welcoming address I expressed the view of the Organizing Committee that we hoped that our conference would lead to a rapprochement between theory and practice. In order to achieve our purpose we tried to make our conference more practice-oriented than previous conferences. We had also the advantage of being able to show the two unique films on Rissa and Tuve, from the human point of view most shocking but from the geotechnical point of view most exciting, particularly the one about the Rissa quick clay slide. We can also add to this the lecture, and the dramatic series of slides of the Teton Dam failure, which was presented by Professor Seed in his special lecture. I have a strong feeling that slides, failures and other cases, where prediction and performance do not agree, ought to be the theme for a whole conference. Hopefully there will be in the future some organizing committee of an ICSMFE who would be daring enough to accept this proposal. We learn much more from what goes wrong than from what goes right.

Now to our conference. To make it alive we pointed out well in advance to all the session chairmen that we expected them to forcefully activate the audience and the panel members in order to create a vivid and spontaneous discussion. I know that some of our chairmen have succeeded well in reaching this goal while others have not. I would like to stress that if we are not sincerely trying to make a real discussion of what we formally call a discussion then we are acting against the true meaning of a conference. There is no sense in having discussions in the form of isolated presentations of, maybe, papers which were refused to start with or, even worse, to have oral presentations of papers that are already printed in the proceedings of the conference. This I cannot call a discussion. It is, I think, the chairman's duty to select a few interesting or controversial topics in his session and to encourage the people on the floor and the panelists to speak extemporaneously and thus to create informality. If this is not done I feel we ought to use the wording "short reports" in stead of "discussion".

Reports have been handed over to me by the chairmen, co-chairmen and technical secretaries of the different sessions. I am sorry to say that it would take too long to go through all these reports in extenso and therefore I have been obliged to select for my presentation only some parts of these reports, however valuable it would have been to read them all through.

The main impression from the session chairmen is that their respective session covered a field of great interest among geotechnicians and that the theme of the session ought to be taken up at conferences to follow. In some sessions extemporaneous contributions were given from the panelists and from the floor, whereas in other sessions there was a more traditional type of performance. Our aim was thus not fully achieved.

The chairmen give credit to their general or state-of-the-art reporters for having presented excellent reports. Of course, our trouble as attendants to a conference is to select between the sessions running simultaneously and I believe we would profit by choosing themes for sessions running simultaneously that are as little as possible related to each other. But this I think can only be rather wishful thinking.

Selected parts of the summaries and impressions presented to me by the chairmen of the different sessions will now be reported and commented.

I completely agree with the general reporter's, Dr Hoeg's, comments in Session 1 that the authors of papers "must make an effort to define how the soil properties were determined. For instance, it is not adequate to refer to the undrained strength of a clay without specifying what type of test and testing procedures were used to determine the value". I am sure that Dr Hoeg by this comment also wishes to imply that it is imperative to give information about the sampling procedure and about other details of importance for the evaluation of test data. Too many authors neglect this self-evident fact and produce papers which - although containing very interesting case studies - are more or less without value. Dr Hoeg also pinpoints another important fact, namely that "authors of the papers submitted do not seem to have studied readily available, recognized references on subjects closely related to their own. A brief review of previous key contributions ought to be a requirement".

The chairman of Session 1, Dr d'Appolonia, suggested that, even on small jobs, the period of construction ought to be used as a "laboratory". It is true that we have here a source of wisdom which is very little utilized, as a simple result of negative attitudes from clients and contractors who both feel that it will cause trouble and cost money.

The organization of Session 2 may set an example to future conferences. After the general report, each of the six panelists presented a short subject or case history. Following each presentation, questions were raised or comments made by the other members of the panel and by members of the audience. This procedure led to a lively informality.

One panelist presented the background of a case history and invited solutions from the panel and audience. This provoked an interesting discussion after which the actual solution was disclosed.

Members of the audience with slides to illustrate discussions they hoped to present were encouraged to give them to the projectionist in advance, identified by their names, so that the slides could be produced whenever the chairmen thought it pertinent to invite the discussion, without a predetermined order. This procedure worked well and allowed the discussion to follow the presentation logically as the subjects unfolded.

From the discussion it was obvious that the art of tunneling has become very advanced and that tunnels can be constructed even in the most difficult circumstances. Thus tunnels, 4 m in diameter, have been constructed, below the water table, in soils susceptible to liquefaction. The advancement of this technology is mainly due to the development of new tunneling machines.

In Session 3, the general reporter, Dr Louis, gave his opinion that we geotechnicians are not as advanced in the field of ground water flow as the geohydrologists and urged us to study the journal of Water Resources Research. Our self-esteem was largely restored by Prof. Fredlund who expressed the opinion that this area can best be handled by geotechnicians. In his inimitable way Prof. Harr took away all our confidence in the physical parameters that we usually work with. He even asserted that there is not such thing as a pore pressure.

It became evident - and this we knew of course already - that ground water is a constant source of worry and

that ground water seepage and flow and the risk of piping and internal erosion are to a great extent unpredictable.

The chairman of Session 4, Prof. Zeitlen, pointed out that the items of the session were not much different from the items discussed in the 1st ICSMFE in 1936 but that the present answers to questions raised would most likely be different. Conventional testing methods have gradually been refined mainly thanks to the advancement of electronic equipment.

Dynamic testing methods, especially the great possibilities created by the use of centrifuges, were some of the subjects discussed.

The panel discussion was concentrated on the following subjects:

- Possibility of using triaxial tests also for determination of plain strain characteristics
- Importance of specimen geometry and testing procedure
- Correlation between consolidation settlement in the field and laboratory consolidation tests
- Relevance of laboratory testing to field behaviour
- Applicability of Resonant Column Tests in respect of dynamic shear modulus
- Use of computer modelling for predicting the influence of different varying parameters

In Session 5, the problem of soil-structure interaction, so often neglected among structural as well as geotechnical engineers, was discussed. Interesting remarks and observations were made about disorder criteria and allowable differential settlement of buildings and bridges, especially when utilizing the radius of curvature of the deformed surface. A lot of practical problems of soil/structure interaction were discussed and new, original solutions presented.

The discussion showed the necessity of using simplified methods but also of having, in specific cases, sophisticated numerical methods such as the finite element method.

In Session 6, the general reporter, Prof. Sembenelli, proposed the term "environmental geotechnics" to identify a tool that contains all the different branches of soil and rock mechanics with regard to investigating, understanding and deciding in order to avoid geotechnical problems that might materialize and geotechnical activities that might later develop into problems. It is a tool aimed at minimizing the entropy of a given process through geotechnical knowledge.

By taking up this theme we certainly move into a new, interesting and important field of engineering.

It was proposed by the chairman Dr. Zah-Chich Moh, in conjunction with his co-chairman, reporters and panelists, that the ISSMFE set up a subcommittee on environmental geotechnics with the following tasks:

- (1) to further clarify and delineate the scope of Environmental Geotechnics
- (2) to compile a comprehensive bibliography on the subject

- (3) to investigate the possibility and to suggest ways and means that the ISSMFE can outline to various authorities legal and normal standards related to environmental geotechnics
- (4) to investigate the possibility and to suggest ways and means that a central depository library be established for compilation of geotechnical maps
- (5) to discuss the organization of a session on Environmental Geotechnics during the next ICSMFE

In Session 7, it was stressed that the advancement of *in situ* testing methods is extremely important. It is therefore comforting to see that the pressuremeter test and the cone penetration test (CPT) are being increasingly used. The CPT equipped so that readings of tip and sleeve resistance as well as excess pore pressures due to penetration can be taken seems to have a great future.

The interpretation of results of self-boring pressuremeter tests in normally consolidated clay was one of the subjects discussed. It was pointed out that a study was required of how to minimize disturbance and how to refine the interpretation of the test results with regard to prediction vs. performance. Among other subjects discussed can be mentioned the influence of sample disturbance on stress vs. strain behaviour of normally consolidated clays, interpretation of SPT results and the influence on these results of pore water pressure and factors influencing the results of field vane tests e.g. excess pore pressure created when the vane is inserted into the soil. The importance of instrument standardization was stressed.

A review of geophysical methods such as subsurface interface radar and acoustic emission was presented.

In Session 8 about 600 participants attended which clearly demonstrates the great interest in piling problems. The discussion was concentrated on three subjects, namely (1) the use of stress wave theory in predicting pile performance, (2) friction piles and (3) behaviour of pile groups.

A better understanding and utilization of modern techniques for studying resistance to penetration in pile driving and its effect on the integrity of the pile and the load/settlement curve and the bearing capacity of the piles seems desirable.

No doubt, a great development is under way and has been achieved in the piling area.

In Session 9, many practical problems were demonstrated but few solutions were presented.

An essential element in the rescue of old cities is the mastering of foundation problems - in terms both of technique and economy. Many possibilities are now offered to the engineer, either active (underpinning etc.) or passive (reinforcement of the structure above ground). However, old buildings often have a quite complex pattern of bearing elements due to many alterations during their lifetime. Therefore, the engineer must carefully scrutinize the building's history in respect of structural elements and foundation before he makes decisions. For old cities, extensive geological, geotechnical and topographical maps are needed.

Saving old cities is an art which requires a very significant role of soil mechanics engineers. Therefore, the panel of session 9 proposed that the ISSMFE

- (1) make an offprint of the main documents of session 9 (including at least the state-of-the-art report, some characteristic case histories, conclusions, etc.)
- (2) have the president send it to UNESCO with proper recommendations
- (3) encourage any national society concerned with this problem to send this document also to the administrative and political authorities of their country
- (4) collect case histories for a similar session in the future.

The general reporter in Session 10, Prof. Whitman, stated that no important new developments had been made since the Tokyo Conference regarding evaluation of dynamic properties.

He further stated that there is a great need of additional well-documented case studies to help in the design of machine foundations. With regard to testing procedures, controlled strain rather than controlled stress tests were recommended.

In the discussion it was stated that adequate methods are now available for calculating vibration parameters of massive machine foundations with regard to foundation size and depth and to soil structure.

Great attention was paid to the problem of vibro-liquefaction. Reports were presented in which simple methods of calculation of vibro-liquefaction of underground bases can be found.

Shielding from waves, propagating from industrial structures and from transport, was another matter of interest.

Mainly as a result of the problem of saving old cities, design methods have been developed with reference to the influence of vibration (including transport vibration) on long-term foundation settlement.

The most important part of Session 11 dealt with landslide warning systems and methods of prevention. Hereunder, the topic of landslide hazard zoning was given particular attention, after introductory surveys from several parts of the world. New ideas about the possibility of advanced detection of landslide were also presented. On the other hand, the important legal aspects of property reevaluation due to hazard zoning were not covered adequately. For several reasons, therefore, it is advisable that these new topics be a part of future sessions on slope stability.

The more classical topics of slope stability, such as numerical analyses, short- and longterm considerations, and case record evaluations, received, as usual, considerable attention. From a fundamental point of view, no major new ideas were brought in, but evidently statistics, probability and variational techniques are being used to an increasing degree. So are also finite element analyses, finite differences, methods of characteristics and velocity fields. Nevertheless, it is still the modelling of soil behaviour and the corresponding soil parameters that decide the reliability of the final numerical result.

In Session 12, the chairman Prof. Cambefort made perhaps the most extensive introduction of all the chairmen at the Conference. Among other things he pointed out that with few exceptions, none of the authors of papers on soil improvement explain the reasoning behind the procedures chosen in their particular cases. He also pointed out that this was to be expected since our knowledge of the subject does not allow such statements. The results of soil improvement depends on a number of complex factors, as yet badly known, e.g. the electrical environment and the characteristics of the three phase soil-water-air system, leading to a rigid, or elastic, or plastic, or collapsible soil skeleton, or a combination of all. The chairman therefore found it imperative to study, systematically, possible types of soil structure in order to make it possible to select a procedure for improvement based on reason. He hoped that if this be done we would get rid of to-day's hazardous method of copying ignorantly what has been successfully done in previous, seemingly comparable cases.

Prof. Mitchell then presented a very extensive and complete state-of-the-art report.

The discussion in Session 12 concerned, among other things, examples and possibilities of combining different techniques of soil improvement.

I would like to conclude my summing-up with one example of the geotechnical problems that highly developed, overpopulated countries may have to face. Outside Osaka, 5 km away from the coast, the Kansai International Airport is planned. It will be constructed on reclaimed land. The water depth at the potential site is 20 m on the average and the sea bottom is generally soft with about 41 m clay and clayey soil. The fill required for reclamation corresponds to a cube with about 800 m side length. About 15 m of consolidation settlement is expected and for the purpose of speeding up the consolidation process more than 100 million metres of vertical drains will have to be installed. This and similar projects are a challenge to the art of geotechnical engineering and give excellent opportunities to increase our knowledge. Let us hope that our scientists will have a chance to take an increasing part in engineering practice and that thereby a closer cooperation and better understanding between science and practice will be achieved.

Mrs. Maria Luzia de Mello

Ladies and Gentlemen,

I was asked to say a few words on behalf of the ladies who have been at this Conference enjoying the privilege of being the guests. What I have to tell our dear Swedish hostesses comes deeply from my heart, and since I am not accustomed to speaking in public, I am especially fortunate that my personal feelings are truly those of all the ladies present, and therefore dispense with chosen words. Moreover, these words are simple, and nothing more than overflows from the heart. I am sure that most of the ladies here present who have come from all parts of the world, will have their own added individual reasons to express our love and gratitude to our dear hostesses. It is pointless to mention the beauties of Stockholm, and the carefully esthetic perfection of all the articles on display at shop-windows, that generate deep concern to our husbands.

What marked us most is the added personal touch at this Conference. Besides the usual program that we enjoyed at

other Conferences, many of us here had the special opportunity of being received in your homes, which added a very special touch of warmth. Jokingly I might interject that to us of the tropics the homely cozy warmth of that evening was even more appreciated because the weather subversively contributed with a record in the other direction.

Truly, we thank you for this most feeling gesture. We had read Selma Lagerloef, we see Ingmar Bergman's movies, and we read Liv Ullman's autobiographical book; and we form some idea of the depth and wealth of the souls of our Swedish friends. But it is only in a personal contact, as was provided at this conference, within a home and family, that we confirm the true dimension of such inner beings.

Il en est des pensées qui peuvent être mieux exprimées dans une langue que dans nulle autre. C'est pourquoi je voudrais finir avec le mot "souvenir". Il traduit fidèlement ce que nous emportons d'ici: un souvenir d'amitié et de chaleur humaine que les temps n'effacera jamais tandis que l'image de ces quelques journées si froides est déjà lointain.

So I say "so long", "au revoir", "På Återseende", until many Conferences for us to look forward to! And deepest thanks to the Ladies Committee, for everything so wonderful.

CLOSING ADDRESS

Prof. Ulf Lindblom, Secretary General

A conference of this size is of course the product of many people's work and engagement. The work of the different committees obviously plays a central role in achieving the goal of arranging a meeting where the participants may profit from the experience which is continuously gathered within our geotechnical community. The different chairmen of our sub-committees have guided their groups through the years, producing technical programs, bulletins, proceedings as well as tours and social programs. Let me add, that not only our members have been engaged in this, but also many wives.

I must here mention that the sudden loss of Dr. Leif Andréasson, Director of SGI, was a hard stroke for all of us, his friends and colleagues.

Also our colleagues in the Nordic Geotechnical Societies must be mentioned for their cooperation in arranging interesting Post-Conference-Tours.

However, there are also a number of persons, normally quite distant from our society, who helped us enormously during the years. Let me first mention my secretary, Mrs. Claire Johansson, who carefully kept track of our correspondence, now amounting to about 3 m of book-shelf space.

Another anchor in the organization has been Miss Catharina Hamilton, whom you all met in the Secretariat. Catharina and her close colleague, Miss Marianne Wegstedt, have been our efficient helpers in organizing all details, letting us sleep well at night even during the conference week.

Another person with never-ceasing patience for our sometimes strange requests, is Miss Ann-Cathrine Persson of the Mässan Organization, who has arranged all practical details for us here at the conference center.

A very special thank you is given to Mrs Hazel Webb, who despite the unfortunate loss of the Secretary General,

Professor Nash, was able to assist us with International Society related questions.

I would also like to express my gratitude to all our sponsors for their support to our budget.

Discussion sessions of the kind we have had here, often without any manuscripts, of course put a high pressure on the interpreters. We all admire the skill of these people who helped us to understand each other despite language barriers.

Finally, I would like to thank all of you for your interest in attending all arrangements, for your patience when something did not work as planned, and first of all, for the feeling of friendliness you created throughout the conference week.

THANK YOU VERY MUCH!

CLOSING ADDRESS

Prof. Sven Hansbo, Chairman of the Organizing Committee

Mr President, ladies and gentlemen

I have much pleasure in expressing my and the Organizing Committee's thanks to Professor Masami Fukuoka. Our president has certainly done his utmost to help us in the organization of this Conference by good advice, economic support and an extremely friendly attitude. I do hope that the friendship developed during the four year organization period will remain for ever.

It has certainly helped us that our President to some extent knows our language. Perhaps we should place a requirement on future presidents that they should learn to an acceptable extent the language of the country in which the International Conference is to be held during the period of his presidency.

I ask you, Professor Fukuoka, to kindly accept as an expression of our gratitude and appreciation this small gift from the Organizing Committee.

Distinguished delegates

now is the end of our conference
i.e. the scientific part
which has maybe increased our knowledge or possibly, though I hope not, led to increased confusion

Still left for you the pleasure trips
the tours so carefully organized
with help from our Nordic friends
and - if not so - it may remain for you
to overcome annoying strikes on airfields
or cancelled air-flight connections

We hope that you enjoyed your stay
that Sweden has lived up to all your expectations
and that, when you are home,
we shall remain your friends, for ever

So, dear friends,
farewell and thank you for your contributions
as chairmen, as panelists and as reporters
by taking part in floor discussions or just by paying fees
We hopefully shall meet again quite soon,
perhaps in Helsinki,
if not, most certainly in 85 in Frisco
Once more, thank you and farewell!

Report from the Organizing Committee

Rapport du Comité d'Organisation

Prof. Ulf Lindblom, Secretary General

1. History and organization of the Conference

During its meeting at the time of the Tokyo conference the ISSMFE Executive Committee voted for Sweden with Stockholm as the site for the next international conference. At the same time the Conference Advisory Committee for the 10th Conference was appointed. The Conference Advisory Committee consisted of six members: President of the International Society (Professor M. Fukuoka, Chairman), Vice-President for Europe (Professor B. Broms), Secretary General of the Organizing Committee for the Tokyo Conference (Professor A. Nakase), Secretary General of the International Society (Professor J.K.T.L. Nash), Chairman of the Organizing Committee of the 10th Conference (Professor S. Hansbo), Secretary General of the 10th International Conference (Professor U. Lindblom) and, as observers, Mr. N. Flodin of the Swedish Geotechnical Society and Professor H.B. Seed from U.S.A.

The Swedish Geotechnical Society appointed the Organizing Committee for the 10th International Conference in September, 1977, under the chairmanship of Professor S. Hansbo.

During the first months of its operation, the Committee worked out a rough out-line of the Conference program and settled Stockholm as the place for the Conference. Results of this preparatory work of the Committee were given at the first meeting of the Conference Advisory Committee held in Stockholm 9 to 11 January, 1978. At this meeting were discussed the localities and dates of the Conference, organization of the sessions, arrangements for sessions, publications, allocation of pages in the proceedings and registration fee, as well as possible names for key positions in the Conference program.

In the beginning of 1978, a number of sub-committees to the Organizing Committee was set up and started their work. These committees included Program Committee, Publications Committee, Finance Committee, Post-Conference Tour Committee, Social Program Committee and Exhibition Committee. A special sub-committee for Technical Visits was set up in 1980.

The second meeting of the Conference Advisory Committee was held in Göteborg on 29 to 31 of March, 1978. At this meeting it was finally agreed that the Conference would be held at the Stockholm Conference Centre about 3 km south of the Centre of the town, from Monday 15 to Friday 19 June, 1981. It was also agreed that there would be twelve main technical sessions (no specialty sessions) taking place over four days with the middle day of the

1. L'histoire et l'organisation du Congrès

A une réunion au cours du Congrès de Tokyo, le Comité Exécutif de la Société Internationale a voté pour la Suède et Stockholm comme le lieu du congrès international suivant.

En même temps le Comité Consultatif du dixième Congrès a été nommé. Le Comité Consultatif du Congrès se composait de six membres: Président de la Société Internationale (le Professeur M. Fukuoka, président), Vice-Président pour l'Europe (le Professeur B. Broms), Secrétaire Général du Comité d'Organisation pour le Congrès de Tokyo (le Professeur A. Nakase), Secrétaire Général de la Société Internationale (le Professeur J.K.T.L. Nash), Président du Comité d'Organisation du dixième Congrès (le Professeur S. Hansbo), Secrétaire Général du dixième Congrès International (le Professeur U. Lindblom) et, comme observateurs, Monsieur N. Flodin de la Société Géotechnique de Suède et le Professeur H.B. Seed des Etats-Unis.

En septembre, 1977, la Société Géotechnique de Suède a nommé le Comité d'Organisation pour le dixième Congrès International, présidé par le Professeur S. Hansbo.

Pendant les premiers mois de travail, le Comité a préparé un projet de programme pour le Congrès et s'est décidé pour Stockholm comme le lieu du Congrès. Les résultats de ce travail préparatoire du Comité ont été présentés à la première réunion du Comité Consultatif du Congrès, tenue à Stockholm le 9 au 11 janvier, 1978. A cette réunion on a discuté les localités et les dates du Congrès, l'organisation des séances, des arrangements pour les séances, des publications, l'attribution des pages pour les comptes-rendus et le droit d'inscription, aussi bien que des noms possibles pour des positions clés dans le programme du Congrès.

Au début de l'année 1978, plusieurs sous-comités du Comité d'Organisation ont été désignés et ont commencé leur travail. Ces comités comprenaient le Comité de Programme, le Comité des Publications, le Comité des Finances, le Comité des Tournées Post Congrès, le Comité du Programme des Divertissements et le Comité de l'Exposition. Un sous-comité spécial pour les Visites Techniques a été désigné en 1980.

La deuxième réunion du Comité Consultatif du Congrès a été tenue à Göteborg du 29 au 31 mars, 1978. A cette réunion il a été finalement décidé que le Congrès aurait lieu au Centre de Congrès à Stockholm, située environ 3 kilomètres au sud du centre de la ville, à partir du lundi le 15 jusqu'au vendredi le 19 juin, 1981. Il a aussi été admis qu'il y aurait douze séances plénières techniques (pas de séances de spécialités) ayant lieu pendant quatre jours. Le jour au milieu de la semaine du

Conference week, Wednesday, reserved for visits to sites and laboratories in the Stockholm area.

There would thus be three sessions running simultaneously each day, except Wednesday. A first list of topics for the sessions was presented. It was agreed that each session would generally run over both morning and afternoon. It was also agreed that there would be a chairman and a co-chairman, a general reporter and a co-reporter and about six panelists for each session. A technical secretary should also be included for each session and assist with the preparation and conduct of the session. The task of the general reporter would be to provide a critical review of the papers presented to his session in the light of the ideas in this subject, since the last conference. In four sessions the general reporters would be asked to produce a state-of-the art report in addition to the general report. During the session, the chairman would introduce the general reporter and guide the discussions with the reporter and the panelists. The co-chairman would take over in the second half of the session, stimulating and controlling the discussion from the floor.

Early in 1978, the Secretary General of the International Society circulated a letter to the National Societies asking for suggestions for names of possible reporters, chairmen, panelists etc. The names given were taken into account and a table of chairmen, reporters and panelists was agreed. Technical secretaries were appointed by the Organizing Committee from among Swedish geotechnical engineers.

It was also agreed during the second Advisory Committee Meeting that there should be two or three general lectures dealing with Scandinavian problems or practice and two special lectures for which Professor A. Bishop and Professor H.B. Seed would be the invited speakers.

As regards the distribution of the responsibilities between the National Societies, it was used the same type of point system as for the Tokyo Conference. The number of points allotted to the key persons was as follows: General Reporter 6, Co-Reporter 3, Chairman 2, Co-Chairman 1, Panelists 1, General Lecturer 3 and Special Lecturer 6 points.

Regarding the proceedings, it was agreed that the size should be the same as that of the previous ISSMFE conferences. A draft specification for the preparation of papers for the Proceedings was prepared by Professor J.K.T.L. Nash for inclusion in Bulletin 2.

The allocation of pages followed the rules laid down by the Executive Committee at its meeting in Tokyo 1977, with 86% of the pages initially distributed to national societies in proportion to the revenue actually received from them in the preceding four years, 10% allocated by the President at his own discretion (but having consulted the Vice-Presidents about it), and finally 4% to be used at the discretion of the Host Organizing Committee. In order to avoid the delay which results from a possible second allocation, it was decided to make the initial allocation 15% greater than the decided total one. This size of over-allocation proved later to be accurate.

It was decided that, in 1978 prices, the registration fee should be 1500 SEK. Since it was realized that this could create a real hardship for younger members, a

Congrès, le mercredi, a été réservé pour visiter des sites et des laboratoires dans la région de Stockholm.

Il y aurait par conséquent trois séances simultanées chaque jour, sauf le mercredi. Une première liste des sujets pour les séances a été présentée. Il a été décidé qu'en général chaque séance serait tenue aussi bien le matin que l'après-midi. Il a aussi été décidé qu'il y aurait pour chaque séance un président et un vice-président, un rapporteur général et un co-rapporteur et environ six membres d'un panel.

Un secrétaire technique devrait aussi être attaché à chaque séance et assister à la préparation et la présidence de la séance. Le rôle du rapporteur général serait de faire la critique des papiers représentés à sa séance en tenant compte des idées dans ce sujet depuis le congrès dernier. En quatre séances les rapporteurs généraux seraient demandés de donner un rapport sur l'état des connaissances, en plus du rapport général. A la séance, le président devrait présenter le rapporteur général et diriger la discussion avec le rapporteur et les membres du panel. Pendant la deuxième moitié de la séance, le vice-président se chargerait de la tâche de stimuler et de contrôler la discussion des membres.

Au début de 1978, le Secrétaire Général de la Société Internationale a circulé une lettre aux Sociétés Nationales leur demandant de proposer des noms possibles pour les postes de rapporteurs, présidents, membres du panel etc. Les noms donnés ont été considérés et un tableau des présidents, des rapporteurs et des membres du panel a été établi. Le Comité d'Organisation a nommé les secrétaires techniques parmi les ingénieurs géotechniques suédois.

Il a aussi été admis pendant cette deuxième réunion du Comité Consultatif qu'il devrait y avoir deux ou trois conférences générales traitant les problèmes ou les pratiques scandinaves, et deux conférences spéciales pour lesquelles le Professeur A. Bishop et le Professeur H.B. Seed seraient invités comme conférenciers.

Quant à la répartition des responsabilités entre les Sociétés Nationales, le même système de points comme au Congrès de Tokyo a été employé. Le nombre de points attribués aux personnes clés étaient les suivants: Rapporteur Général 6, Co-rapporteur 3, Président 2, Vice-Président 1, Membre du panel 1, Conférencier Général 3, et Conférencier Spécial 6 points.

En ce qui concerne le volume des comptes-rendus il a été décidé qu'il devrait être pareil à celui des congrès précédents de la Société Internationale. Des instructions pour la préparation des papiers pour les comptes-rendus ont été prévues par le Professeur J.K.T.L. Nash pour être incluses dans le Bulletin 2.

L'attribution des pages suivait les règles adoptées par le Comité Exécutif à sa réunion à Tokyo en 1977, avec, initialement, 86% des pages distribuées aux Sociétés Nationales en proportion du revenu effectivement reçu d'elles pendant les quatre années précédentes, 10% attribués par le Président à sa discrétion (ayant d'abord consulté les Vice-Présidents sur le sujet), et finalement 4% employés à la discrétion du Comité d'Organisation. Afin d'éviter le retardement consécutif à une deuxième attribution éventuelle, il a été décidé que l'attribution initiale serait 15% plus grande que l'attribution totale réglée. Plus tard, la dimension de ce surplus s'est montrée correcte.

Il a été décidé que le droit d'inscription serait 1500 SEK selon les prix de 1978. Puisqu'il était reconnu que cela pourrait poser des problèmes aux jeunes membres, un

lower registration fee, 1000 SEK, was settled for members under 30 years of age registered before 1 September 1980.

In addition to the items mentioned above, a number of practical questions related to the Conference were discussed during the second Advisory Committee meeting.

The problems of financial responsibility and how to raise necessary funds for the Conference were of major concern for the Organizing Committee in the beginning of the planning work. It became rather soon apparent that major contributions from the Swedish industry could not be expected. However, some financial responsibility was overtaken by the City of Stockholm and by grants and loans from the Swedish Council for Building Research and the National Swedish Board for Technical Development. All budget work therefore had to be based on the assumption that most of the income to the Conference was to come from delegate fees.

It should be specifically pointed out that through the course of the preparation work of the Conference the late Secretary General of the International Society Professor J.K.T.L. Nash kept a close correspondence with the Organizing Committee and, especially, close contacts with its Secretary General.

2. Bulletins

Bulletin No. 1 containing the preliminary information and invitation for the Conference was published in June 1979. 15.000 copies were printed and despatched to the National Societies with the request that they be distributed to their members. A preliminary application form was attached to the Bulletin.

Bulletin No. 2 was issued in November 1979 and gave specific information regarding the technical program of the conference as well as instructions regarding preparation and submission of summaries and papers. 15.000 copies were printed and despatched to the National Societies.

Bulletin No. 3 was published in September 1980. 15.000 copies were printed and despatched to the National Societies. This bulletin contained a detailed program of the Conference, application form for registration, accommodation, social events and post-conference tours, etc.

At the registration in Stockholm, each registrant was provided with a Guide Book containing general information and the detailed program of the Conference, together with maps of the conference hall and its vicinity. In this Guide Book, the social program around the conference as well as the day program for accompanying persons were also included.

A brochure for the technical exhibition was presented, too, to the registrants, including a list of the exhibitors and a map of the exhibition hall.

To those registered for the post-conference tours, a separate, detailed Tour Bulletin for each tour was given.

3. Proceedings

The Proceedings for the Stockholm Conference were prepared by direct photo off-set reproduction of the manuscripts as received from the National Societies.

droit d'inscription plus bas, 1000 SEK, a été fixé pour les membres âgés de moins de 30 ans et inscrits avant le 1 septembre, 1980.

En plus des questions citées ci-dessus un nombre de problèmes pratiques concernant le Congrès ont été discutés pendant la deuxième réunion du Comité Consultatif.

Les problèmes de la responsabilité financière et comment trouver des fonds nécessaires au Congrès étaient la grande préoccupation du Comité d'Organisation au début du projet. Bientôt il a été évident qu'on ne pouvait pas attendre des contributions majeures de la part de l'industrie suédoise. Quelque responsabilité financière a cependant été assumée par la Ville de Stockholm et aussi par des subventions et des emprunts du Conseil Suédois de Recherches sur la Construction et l'Urbanisme et de la Direction Nationale Suédoise pour le Développement Technique. C'est pourquoi il fallait que tout travail budgétaire fût basé sur le fait que la plus grande partie du revenu pour le Congrès viendrait des droits des délégués.

Il doit être souligné qu'au cours des préparations pour le Congrès le précédent Secrétaire Général de la Société Nationale, le Professeur J.K.T.L. Nash a entretenu une correspondance très suivie avec le Comité d'Organisation et, surtout, des contacts continuels avec le Secrétaire Général du Comité.

2. Bulletins

Bulletin no 1, contenant les informations préliminaires et une invitation au Congrès, a été publié en juin, 1979. 15.000 exemplaires ont été imprimés et envoyés aux Sociétés Nationales en leur demandant de les distribuer à leurs membres. Un formulaire d'inscription préliminaire a été attaché au Bulletin.

Bulletin no 2 a paru en novembre, 1979, et donnait des informations spécifiques concernant le programme technique du Congrès aussi bien que des instructions concernant la préparation et la présentation des résumés et des papiers. 15.000 exemplaires ont été imprimés et envoyés aux Sociétés Nationales.

Bulletin no 3 a été publié en septembre, 1980. 15.000 exemplaires ont été imprimés et envoyés aux Sociétés Nationales. Ce bulletin contenait un programme détaillé du Congrès, un formulaire pour inscription, logement, événements de divertissement, tournées post-congrès, etc.

A l'inscription à Stockholm chaque inscrit a reçu un Guide contenant des informations générales et le programme détaillé du Congrès, avec des plans du Centre de Congrès et ses environs. Dans ce Guide il y avait aussi le programme des divertissements autour du Congrès aussi bien que le programme du jour pour les personnes accompagnantes.

Les inscrits ont aussi été fournis d'une brochure pour l'Exposition Technique, y compris une liste des exposants et un plan de la salle d'exhibition.

Ceux qui étaient inscrits pour les tours post-congrès ont reçu un Bulletin de Tour séparé et détaillé pour chaque tour.

3. Comptes-rendus

Les comptes-rendus pour le Congrès de Stockholm ont été préparés par reproduction en photo offset des manuscrits reçus des Sociétés Nationales.

Authors of papers were asked to send a Summary of their paper to the Organizing Committee four months before the arrival of the full paper. All Summaries were bound in a special volume which was mailed to the delegates upon registration.

Some of the authors of the papers, however, were asked to improve their manuscripts because they were not prepared in accordance with the instructions in Bulletin No. 2. Table 1 shows the number of papers and their total pages submitted by each National Society and the number of discussions submitted and accepted.

Volumes 1, 2 and 3 of the Proceedings contain 499 papers on the different themes of the sessions. It was announced in Bulletins No. 1 and 2 that the papers should be submitted to the Organizing Committee by September 1st, 1980. It was, however, only at the end of November when all papers had arrived. Manuscripts of all papers were brought to the printer in January 1981. Volumes 1, 2 and 3 were printed in April and May and were sent to the Conference Centre the week before the Conference. One set of the Proceedings was sent to each National Society in May 1981 to be used as a reference for their members. Also session chairmen and reporters received a copy of the volume of the Proceedings in advance in which the papers to his session were printed. 25 reprints of the paper were airmailed to each senior author in May, 1981.

The remaining one thousand copies printed of the Proceedings were bought by Balkema Publishers of Rotterdam, Holland, now acting as sole publishers. After the Conference, copies of the Proceedings must consequently be purchased through Balkema.

General Reports as well as State-of-the-Art Reports were printed as received before the Conference and bound in a special volume. This was given to the delegates at the Conference in Stockholm. The Authors were given the possibility to update their reports before they were included in Volume 4 of the Proceedings.

4. Conference participants

There were about 1600 registered delegates to the Conference and about 400 accompanying person. Table 2 gives the detailed distribution on national societies of participants and accompanying persons at the Conference.

5. Languages and interpretation

The official languages of the Conference were English and French, according to the Statutes of the International Society.

All printed matter, except for the Exhibition Guide and the special Tour Guides for the post-conference tours, were prepared in both English and French. During the sessions, simultaneous interpretation was provided between the two languages. However, this service was not provided for the technical visits on Wednesday, June 17, when only English was used. Nine simultaneous interpreters from Europe were engaged.

Les auteurs des papiers étaient priés d'envoyer un résumé de leurs papiers au Comité d'Organisation quatre mois avant l'arrivée de papier complet. Tous résumés étaient reliés dans un volume spécial qui a été envoyé aux délégués après l'enregistrement.

Quelques-uns des auteurs des papiers ont pourtant été demandés d'améliorer leurs manuscrits puisqu'ils n'étaient pas préparés conformément aux instructions dans le Bulletin no 2. Tableau 1 montre le nombre de papiers et le nombre total de pages présentés par chaque Société Nationale ainsi que le nombre de discussions présentées et acceptées.

Volumes 1, 2 et 3 des comptes-rendus comprennent 499 papiers sur les sujets différentes des séances. On a annoncé dans les Bulletins 1 et 2 que les papiers devraient être présentés au Comité d'Organisation le 1 septembre, 1980 au plus tard. Cependant ce fut seulement à la fin de novembre que tous les papiers étaient arrivés. Manuscrits de tous les papiers ont été apportés à l'imprimerie en janvier, 1981. Volumes 1, 2 et 3 ont été imprimés en avril et mai et envoyés au Centre du Congrès la semaine avant le Congrès. Un ensemble des comptes-rendus a été envoyé à chaque Société Nationale en mai, 1981, comme ouvrages de référence pour leurs membres. Les présidents et les rapporteurs des séances ont aussi reçu d'avance un exemplaire du volume dans lequel étaient imprimés les papiers pour leur séance. 25 copies du papier ont été expédiées à chaque auteur senior en mai, 1981.

Les mille exemplaires restants des comptes-rendus ont été achetés par la Maison Balkema à Rotterdam, Hollande, tenant le rôle de seul éditeur. Après le Congrès il faut donc acheter des exemplaires des comptes-rendus par Balkema.

Le rapport généraux aussi bien que les Rapports sur l'Etat des Connaissances étaient imprimés comme reçus avant la Conférence et reliés dans un volume spécial. Ce volume a été donné aux délégués à la Conférence à Stockholm. Les auteurs avaient la possibilité d'actualiser leurs rapports avant ils ont été inclus dans le Volume 4 de discours.

4. Participants du Congrès

Il y avait environ 1600 délégués enregistrés pour le Congrès et environ 400 personnes accompagnantes. Tableau 2 montre la répartition détaillée en sociétés nationales des participants et des personnes accompagnantes à la Conférence.

5. Langues et interprétation

Les langues officielles du Congrès étaient anglais et français en conformité avec les statuts de la Société Internationale.

Tout imprimé, sauf le Guide d'Exposition et les Guides de tours spéciaux pour les Tournées post-congrès, était préparé en anglais et français. Pendant les séances il y avait des traductions simultanées entre les deux langues. Cependant, ce service n'a pas été donné pour les visites techniques mercredi le 17 juin où l'anglais seulement a été employé. Neuf interprètes simultanés de l'Europe étaient engagés.

TABLE 1. ALLOCATED PAGES AND NUMBER OF PAPERS, PAGES AND DISCUSSIONS SUBMITTED

Tableau 1. Allocation des Pages et Nombre de Documents et de Discussions Venus

National Society Société Nationale	Original allocation (pages)/ Allocation originale (pages)	Number of papers arrived/ Nombre de documents venus	Total number of pages/ Total nombre de pages	Number of discussions/ * Nombre de discussions
Argentina/Argentine	34	-	-	2
Australia/Australie	62	12	60	3
Austria/Autriche	34	5	38	5
Belgium/Belgique	46	8	46	10
Brazil/Brésil	44	12	54	5
Bulgaria/Bulgarie	32	7	32	-
Canada/Canada	124	20	120	20
Chile/Chili	14	4	16	1
China/Chine	46	11	44	12
Colombia/Colombie	18	1	12	-
Czechoslovakia/Tchécoslovaquie	38	9	38	5
Denmark/Danemark	46	9	44	1
Dominican Republic/Republique Dominicaine	10	-	-	-
Ecuador/Equateur	12	-	-	-
Egypt/l'Egypte	8	1	6	-
Federal Republic of Germany/République Fédérale d'Allemagne	116	22	124	13
Finland/Finlande	44	6	44	4
France/France	130	32	136	35
German Democratic Republic/République Démocratique Allemande	38	9	36	-
Ghana/Ghana	10	1	6	-
Greece/Grece	34	8	32	2
Hungary/Hongrie	32	6	26	-
India/Inde	50	14	56	19
Indonesia/Indonésie	14	2	10	-
Iran/Iran	-	-	-	-
Ireland/Irlande	16	3	16	1
Israel/Israël	32	2	10	-
Italy/Italie	132	24	138	16
Japan/Japon	98	25	100	18
Mexico/Mexique	66	12	64	1
Netherlands/Pays-Bas	48	11	48	6
New Zealand/Nouvelle Zelande	48	4	30	1
Nigeria/Nigéria	14	1	4	-
Norway/Norvège	52	9	56	7
Poland/Pologne	46	12	50	7
Portugal/Portugal	38	8	44	1
Republic of South Africa/République Sud-Africaine	70	11	70	1
Romania/Roumanie	-	-	-	7
Southeast Asia/Asie du Sud-Est	42	8	34	9
Spain/Espagne	68	12	62	1
Sweden/Suède	70	30	160	11
Switzerland/Suisse	56	9	54	5
Syria/Syrie	10	1	6	-
Turkey/Turquie	26	5	22	3
United Kingdom/Royaume-Uni	122	21	134	26
United States of America/Etats-Unis d'Amérique	174	53	224	14
Union of Soviet Socialists Republics/Union des Républiques Socialistes Soviétiques	84	27	80	8
Venezuela/Vénézuéla	40	5	30	-
Yugoslavia/Yougoslavie	32	6	32	6
Zimbabwe/Zimbabwe	38	1	8	1
	2458	499	2456	287

* Supplied for printing.

TABLE 2. DISTRIBUTION OF PARTICIPANTS AND ACCOMPANYING PERSONS ON THE NATIONAL SOCIETIES

Tableau 2. Répartition en Sociétés Nationales des Participants et des Personnes Accompagnantes

National Society Société Nationale	Participants Participants	Accompanying Persons Personnes accompagnantes	Total Total
Argentina/Argentine	15	9	24
Australia/Australie	20	8	28
Austria/Autriche	18	4	22
Belgium/Belgique	30	6	36
Brazil/Brésil	34	17	51
Bulgaria/Bulgarie	2	-	2
Canada/Canada	49	17	66
Chile/Chili	9	1	10
China/Chine	13	-	13
Colombia/Colombie	7	3	10
Czechoslovakia/Tchécoslovaquie	5	-	5
Denmark/Danemark	22	2	24
Dominican Republic/République Dominicaine	-	-	-
Ecuador/Equateur	2	2	4
Egypt/l'Egypte	5	1	6
Federal Republic of Germany/République Fédérale d'Allemagne	51	20	71
Finland/Finlande	42	10	52
France/France	98	15	113
German Democratic Republic/République Démocratique Allemande	3	-	3
Ghana/Ghana	-	-	-
Greece/Grece	14	2	16
Hungary/Hongrie	4	1	5
India/Inde	14	-	14
Indonesia/Indonésie	23	-	23
Iran/ Iran	-	-	-
Ireland/Irlande	9	3	12
Israel/Israël	9	1	10
Italy/Italie	79	18	97
Japan/Japon	180	17	197
Mexico/Mexique	34	9	43
Netherlands/Pays-Bas	38	7	45
New Zealand/Nouvelle Zelande	3	1	4
Nigeria/Nigéria	8	1	9
Norway/Norvège	52	14	66
Poland/Pologne	9	-	9
Portugal/Portugal	14	5	19
Republic of South Africa/République Sud-Africaine	17	5	22
Romania/Roumanie	3	-	3
Southeast Asia/Asie du Sud-Est	52	18	70
Spain/Espagne	21	5	26
Sweden/Suède	169	11	180
Switzerland/Suisse	17	3	20
Syria/Syrie	4	1	5
Turkey/Turquie	5	2	7
United Kingdom/Royaume-Uni	105	23	128
United States of America/Etats-Unis d'Amérique	152	74	226
Union of Soviet Socialists Republics/Union des Républiques Socialistes Soviétiques	16	-	16
Venezuela/Vénézuëla	18	8	26
Yugoslavia/Yougoslavie	48	2	50
Zimbabwe/Zimbabwe	3	1	4
Specially invited non-members Non-membres spécialement invités			
Algeria/Algérie	1	-	1
Peoples Republic of Congo/Republique Populaire du Congo	1	-	1
Guyana/Guyane	1	-	1
Iceland/Icelandie	3	1	4
Iraq/Iraq	7	-	7
Ivory Coast/Cote d'Ivoire	1	-	1
Libya/Libye	11	-	11
Luxemburg/Luxembourg	1	-	1
Paraguay/Paraguay	1	-	1
Saudi Arabia/Arabie Saoudite	9	-	9
Tunisia/Tunisie	2	-	2
	1583	348	1931

6. Executive Committee

The Executive Committee of the International Society met on 12 and 13 June in the Stockholm Sheraton Hotel under the chairmanship of the President, Professor M. Fukuoka. The Executive Committee met again at the Conference Centre for a final meeting on 17 June. Each National Society was represented by a voting delegate and, in most cases, with a non-voting delegate.

The list of the delegates and the minutes of the Executive Meeting is included in this Volume on pages 69-162. Simultaneous interpretation, English/French and vice versa, was not provided at the meeting in accordance with a statement at the Executive Committee Meeting in Oaxaca 1979 (see pages 39 - 68 in this volume). The Organizing Committee provided secretarial services to the Executive Committee members.

In the evening of 13 June, the Organizing Committee invited the members of the Executive Committee to a banquet in the Royal Swedish Automobile Club in Stockholm. On 15 June, a sightseeing tour bus was provided for the accompanying persons to the delegates in the Executive Committee.

7. Technical sessions

The framework of the technical sessions was discussed at the time of the first and the second meeting of the Conference Advisory Committee in 1978. It was agreed then that for each technical session there should be a General Reporter to review papers submitted to the session. With the assistance of the Co-Reporter of the session, the General Reporter would endeavour to produce a general report on the theme of the session. In addition, four of the sessions, where general international reviews were especially to be desired, would have state-of-the-art reports produced by the General Reporter. These sessions were No. 3 - Groundwater and Seepage Problems, No. 6 - Environmental Control (including Waste Materials), Session 9 - Saving Cities and Old Buildings and Session 12 - Soil Improvement. It was also decided by the Advisory Committee that the Chairmen would introduce the General Reporters and guide the discussions with the Reporters and the Panelists. In the second half of the session the Co-Chairman would take over, stimulating and controlling the discussion from the floor. Finally, the Chairman would once more take over and provide a summary of what had been achieved in the session. The Technical Secretaries would assist the Chairman in the conduct of the session.

It was visualized that each session should have about 6 panelists. Names of the panelists were suggested at the time of the second meeting of the Conference Advisory Committee in March 1978. Final appointment of the panelists was made in the autumn of 1978. Some panelists were late in responding to the invitation and some of them were nominated as late as only a few months before the Conference.

There was a fairly extensive correspondence between the key persons and the Organizing Committee and the Technical Secretaries prior to the Conference. This was necessary to make arrangements for the publication of the general and the state-of-the-art reports and also for the conduct of the technical sessions. During the Conference week, the Chairman, the Co-Chairman, General Reporter, Co-Reporter, Panelists and the Technical Secretary of each session met in the preceding day to lay out the necessary final details.

6. Comité Exécutif

Le Comité Exécutif de la Société Internationale s'est réuni le 12 et le 13 juin à l'Hotel Sheraton à Stockholm, présidé par le Président, Professeur M. Fukuoka. Le 17 juin le Comité Exécutif s'est rassemblé pour une dernière réunion au Centre de Congrès. Chaque Société Nationale a été représentée par un délégué votant et, pour la plupart, un délégué sans pouvoir de vote.

La liste des délégués et le procès-verbal de la Réunion Exécutive sont inclus dans ce volume, pages 69-162. La traduction simultanée, anglais/français et vice versa, n'a pas été donnée à cette réunion, conforme à une déclaration à la Réunion du Comité Exécutif à Oaxaca en 1979 (voir pages 39-68 dans ce volume). Le Comité d'Organisation procurait des services de secrétariat pour les membres du Comité Exécutif.

Dans la soirée du 13 juin les membres du Comité Exécutif étaient invités par le Comité d'Organisation à un banquet à l'Automobile Club Royale de Suède à Stockholm. Le 15 juin il y avait un autocar de tourisme pour les personnes accompagnantes des délégués du Comité Exécutif.

7. Séances techniques

Le cadre de la séance technique a été discuté au temps de la première et de la deuxième réunion du Comité Consultatif en 1978. Il a alors été convenu que chaque séance technique devrait avoir un Rapporteur Général pour résumer les papiers présentés à la séance. Avec l'assistance du Co-rapporteur de la séance, le Rapporteur Général tâcherait de donner un rapport général sur le sujet de la séance. En plus il y aurait pour quatre des séances, où des rapports internationaux généraux, seraient particulièrement souhaitable, des rapport sur l'état des connaissances, faits par le Rapporteur Général. Ces séances étaient no 3 - Eau souterraine et problèmes d'infiltration, no 6 - Problèmes d'environnement (y compris stockage des déchets), no 9 - Sauvetage des cités et des bâtiments anciens et no 12 - Amélioration des sols. Il a aussi été admis par le Comité Consultatif que les Présidents devraient présenter les Rapporteurs Généraux et diriger les discussions avec les Rapporteurs et les membres du panel. Pendant la deuxième moitié de la séance ce serait au Vice-président de stimuler et de contrôler la discussion dans la salle. Finalement le Président s'en chargerait de nouveau et il ferait un résumé des résultats de la séance. Les Secrétaires Techniques assisteraient à la présidence de la séance.

Il a été prévu que chaque séance devrait avoir environ 6 membres du panel. Les noms de ces membres ont été proposés au temps de la deuxième réunion du Comité Consultatif en mars, 1978. Ils ont été finalement nommés à l'automne, 1978. Quelques uns des membres du panel tardaient à répondre à l'invitation et d'autres ont été nommés seulement quelques mois avant le Congrès.

Avant le Congrès il y avait une correspondance assez importante entre les personnes clés et le Comité d'Organisation et les Secrétaires Techniques. Cela a été nécessaire pour arranger la publication des rapports et aussi pour administrer les séances techniques. Pendant la semaine du Congrès le Président, le Vice-président, le Rapporteur Général, le Co-rapporteur, les Membres du panel et les Secrétaires Techniques de chaque séance se sont réunis le jour précédent pour arranger les derniers détails nécessaires.

Three sessions were run parallelly every day from 10.30 in the morning to about 5 in the afternoon.

Each session proceeded roughly as follows:

1. Short introduction
2. Presentation by the General Reporter
3. Panel discussion on topics raised by the Chairman or by the General Reporter
4. Lunch intermission
5. Discussion on topics raised from the floor (prepared or free) led by the Co-Chairman
6. Closing remarks by the Chairman.

Compared with earlier conferences, considerably more time was being allocated for floor discussions. Those who wished to participate in the discussion were asked to submit their questions and topics on a Discussion Application Form which was provided at the Conference. These forms should be handed in at the technical secretary's desk, from 9 in the morning on the previous day up until the lunch intermission of the actual session. When a question or topic was selected, the delegates would be introduced by the co-chairman of the session. After the presentation of the discussion, the matter was discussed by persons selected by the co-chairman from among general reporters, co-reporters, panelists and other experts. Oral discussions from the floor were limited to six minutes and a maximum of three slides. In some sessions there was also an opportunity for spontaneous discussions from the floor. For those who could not get time for discussion, possibilities was announced to send in written contributions to the discussion.

8. Opening ceremony and closing session

The opening ceremony took place on Monday 15 June in the main hall of the Conference Centre. The official opening was performed by His Royal Highness King Carl XVI Gustaf. After that a welcome address was held by Professor Sven Hansbo, Chairman of the Organizing Committee. Music followed by the Stockholm Ensemble.

After that, Professor R.B. Peck gave a commemoration of the late Professor Kevin Nash. He addressed himself to Mrs. Mel Nash and Mr. David Nash, who were present in the audience. The delegates were asked to stand in a moment of gratitude for Professor Nash. Then the President of ISSMFE, Professor M. Fukuoka, handed over a plaque from the Society to Mrs. Nash, in memory of the late Secretary General.

Professor M. Fukuoka gave then his presidential address, followed by general information by Professor Ulf Lindblom, Secretary General of the 10th Conference.

The opening ceremony was ended with music by the Stockholm Ensemble.

In the closing session on Friday June 19, Professor Fukuoka gave a short address in which he expressed his thanks to the participants and also presented the new president of the International Society, Professor Victor F.B. de Mello. Professor de Mello then gave a short address followed by conclusions from the technical sessions, presented by Professor S. Hansbo. Closing addresses were then given by Mrs. de Mello on behalf of the accompanying persons and by Professor Lindblom and Professor Hansbo on behalf of the Organizing Committee. The closing session ended at 6 in the afternoon of 19 June.

Trois séances ont été tenues parallèlement chaque jour entre 10h30 du matin et environ 5 h de l'après-midi.

Tous les séances procédaient à peu près comme cela:

1. Brève introduction
2. Présentation par le Rapporteur Général
3. Discussion au panel sur des sujets proposées par le Président ou par le Rapporteur Général
4. Pause de déjeuner
5. Discussion dirigée par le Vice-président sur des sujets proposés par l'auditoire
6. Conclusions du Président

Par comparaison aux congrès précédents, beaucoup plus de temps a été attribué aux discussions dans la salle. Ceux qui souhaitaient participer aux discussions ont été demandés de présenter leurs questions et leurs sujets sur un Formulaire de Discussion obtenu au Congrès. Ces formulaires devaient être déposés chez le secrétaire technique à partir de 9 h le matin du jour précédent jusqu'à la pause de déjeuner de la séance même. Quand une question ou un sujet a été choisi les délégués ont eu une introduction faite par le vice-président de la séance.

Après la présentation de la discussion, la question a été discutée par des personnes choisies par le vice-président parmi les rapporteurs généraux, les co-rapporteurs, les membres du panel et d'autres experts. Les discussions orales de la salle ont été limitées à six minutes et trois diapositives au maximum. Dans quelques séances on avait aussi l'occasion de discuter spontanément dans la salle.

Pour ceux qui n'ont pas pu participer à la discussion par manque de temps, on a annoncé la possibilité d'envoyer leurs contributions écrites.

8. Cérémonie d'ouverture et séance de clôture

La cérémonie d'ouverture a eu lieu lundi le 15 juin dans la grande salle du Centre de Congrès. L'ouverture officielle a été effectuée par Sa Majesté Royale Carl XVI Gustaf. Ensuite le Professeur Sven Hansbo, Président du Comité d'Organisation, a tenu un discours de bienvenue, suivie par de la musique avec le Stockholm Ensemble.

Puis le Professeur R.B. Peck a donné une commémoration du regretté Professeur Kevin Nash. Il s'est adressé à Mme Mel Nash et M. David Nash, qui étaient présents dans l'auditoire. Les délégués ont été demandés d'observer un moment de silence en hommage du Professeur Nash. Ensuite le Président de la Société Internationale, le Professeur M. Fukuoka, a remis à Mme Nash une plaque de la Société, à la mémoire du précédent Secrétaire Général.

Le Professeur M. Fukuoka a alors tenu son discours présidentiel, suivi par des informations générales données par le Professeur Ulf Lindblom, Secrétaire Général du dixième Congrès.

La cérémonie d'ouverture a été terminée par musique avec le Stockholm Ensemble.

A la séance de clôture vendredi le 19 juin, le Professeur Fukuoka a tenu un bref discours dans lequel il a remercié les participants et aussi présenté le nouveau président de la Société Internationale, le Professeur Victor F.B. de Mello. Après le Professeur de Mello a donné un bref discours suivi par les conclusions des séances techniques, présentées par le Professeur S. Hansbo. Les discours de clôture ont été tenus par Mme de Mello de la part des personnes accompagnantes et par le Professeur Hansbo de la part du Comité d'Organisation. La séance de clôture s'est terminée à 6h de l'après-midi le 19 juin.

A record of the opening ceremony and the closing session will be found in this volume on pages 167 - 182.

Les relations de la cérémonie d'ouverture et de la séance de clôture se trouvent dans ce volume, pages 167 -182.

9. Technical visits, Exhibition and Films

About ten different sites of technical interest had been prepared for technical visits on Wednesday 17 June. These sites included construction sites of geotechnical interest and geotechnical engineering laboratories. All visits were limited to Stockholm and its vicinity and took place in the afternoon (see Table 3). Table 3 shows the different Technical Visits.

9. Visites Techniques, Exposition et Films

Environ dix différentes sites d'intérêt technique étaient préparées pour des visites techniques mercredi le 17 juin. Ces sites comprenaient des chantiers de construction d'intérêt géotechnique et des laboratoires géotechniques. Toutes les visites se limitaient à Stockholm et ses environs et se passaient dans l'après-midi (voir Tableau 3). Tableau 3 montre les différentes Visites Techniques.

TABLE 3. TECHNICAL VISITS JUNE 17

Tableau 3. Visites Techniques Juin 17

Visit Visite	Number of attendants Nombre de participants
A. Bridge and tunnel construction for city motorway, Söderleden Pont et tunnel en construction pour une autoroute urbaine, Söderleden	80
B. Blasting of rock tunnel for underground railway Percement à l'aide d'explosifs d'un tunnel ferroviaire dans le rocher	40
C. Infiltration tunnel and "Jet Pile" method Tunnel pour infiltration et méthode de lançage	80
D. Royal Institute of Technology (KTH) and geotechnical field demonstration Institut Royal de Technologie (KTH) et démonstration d'essais géotechniques in situ	120
E. Clay stabilization methods and pile foundations for motorway E4 Méthodes de stabilisation de terrains argileux et fondations sur pieux pour l'autoroute E4	80
F. Manufacture and installation of pre-cast concrete piles - Uppsala Fabrication et mise en place de pieux préfabriqués en béton - Uppsala	80
G. Prestressed concrete bridge on pile foundation - Strängnäs Pont en béton précontraint fondé sur pieux - Strängnäs	40
H. Underpinning of Buildings in the Old Town of Stockholm Reprise en sous-oeuvre de bâtiments dans la vieille ville de Stockholm	80
I. Cancelled Suspendu	-
K. Atlas Copco	40
Extra visit/ Visite supplémentaire	
Stabilator	
1. Underpinning with steel core piles of old building on Blasieholmen - Stockholm	80
2. A site with pre-cast piles - Upplands-Väsby	

720

Within the framework of the Conference an Exhibition was arranged which gave state-of-the art account of the technical applications and equipment development in foundation engineering as well as in geotechnical laboratory and field instrumentation.

Dans le cadre du Congrès une exposition a été arrangée, faisant un exposé de l'état des connaissances sur les applications techniques et le développement d'équipement dans la technique de fondations aussi bien que dans l'instrumentation géotechnique de laboratoire et in situ.

The exhibition encompassed the entire geotechnical field from contractor and consultant activities to research and development work. The exhibition, named GeoEx '81, was arranged Monday to Thursday nextdoor to the Conference Centre at Stockholm International Fair, with immediate access for all delegates. GeoEx '81 attracted more than hundred exhibitors and it is believed to be the largest geotechnical exhibition in the world up to the present date. The exhibition was very well attended and was much appreciated by exhibitors as well as the delegates and as well as others outside the Conference.

During the Conference week, two films were shown in the Conference Centre. Both films dealt with landslides, one from the Tuve landslide in Sweden in 1977 and the other from the Norwegian Rissa landslide in 1978. These films proved to be of much interest to the audience.

10. Social activities

During the Conference week there was a social program going on for the delegates and accompanying persons in the evenings as well as a program for the accompanying persons during the days.

Evening program for delegates and accompanying persons

On Sunday 14 June, there was a welcome reception at Skansen, the well-known park and open-air historical museum in Stockholm. At Skansen, the arriving delegates were able to relax after the travel and to meet old friends. There was a drink with a snack served.

On Monday 15 June the City of Stockholm gave a reception in the Stockholm City Hall. A buffet was served during the reception.

On Tuesday 16 June a number of Swedish geotechnical engineers with families living in and around Stockholm opened their homes to the Conference participants and invited them to spend a Swedish evening with them. This home hospitality arrangement was very appreciated by the delegates. As an alternative to the home hospitality arrangement there was a summer-night concert in the Cathedral of Stockholm located closely to the Royal Palace.

In the evening of Wednesday 17 June, a boat excursion through the unique archipelago of Stockholm was made to the historic fortress of Waxholm. There, music, entertainment and an outdoor meal was given.

On Thursday 18 June, a banquet was held at the Stockholm City Hall, the place for the traditional Nobel Prize Festivities. The banquet included a dinner followed by entertainment and dancing. About 1.000 people attended the banquet.

Day program for accompanying persons

On Monday 15 June, a cruise was made among the 14 islands on which the City of Stockholm developed through seven centuries.

On Tuesday 16 June a sightseeing tour by bus was arranged including visits to the Royal Palace and to the Milles Sculpture Garden, set high above the waters of Stockholm on the island of Lidingö.

On Wednesday 17 June, a boat trip to Drottningholm Palace was arranged. The boat left from the City Hall and continued over lake Mälaren to the Palace. Lunch was served on board.

L'exposition enveloppait le champ géotechnique entier à partir des activités de l'entrepreneur et de l'expert-conseil jusqu'aux travaux de recherche et de développement. L'exposition, appelée GeoEx '81, a eu lieu de lundi à jeudi à côté du Centre de Congrès dans la Foire Internationale de Stockholm, donnant accès immédiat aux délégués. GeoEx '81 a attiré plus de cent exposants et elle passe pour être la plus grande exposition géotechnique du monde jusqu'à présent. L'exposition a été très fréquentée et très appréciée par exposants et délégués aussi bien que par d'autres en dehors du Congrès.

Pendant la semaine de Congrès deux films ont été montrés dans le Centre de Congrès. Tous les deux traitaient de glissements de terrain, un du glissement à Tuve en Suède en 1977 et l'autre du glissement norvégien à Rissa en 1978. Ces films se sont montrés d'un grand intérêt à l'auditoire.

10. Activités de divertissement

Au cours de la semaine du Congrès on a organisé un programme pour les délégués et les personnes accompagnantes pendant les soirs et aussi un programme pendant les jours pour les personnes accompagnantes.

Programme du soir pour délégués et personnes accompagnantes

Dimanche le 14 juin il y a eu une réception à Skansen, le célèbre parc et musée historique en plein air à Stockholm. A Skansen les délégués qui venaient d'arriver pouvaient se détendre après le voyage et rencontrer de vieux amis. On a servi un drink avec un repas léger.

Lundi le 15 juin la Ville de Stockholm a donné une réception dans l'Hôtel de Ville. Pendant la réception un buffet a été servi.

Mardi le 16 juin plusieurs ingénieurs géotechnique suédois et leurs familles, qui habitent à Stockholm ou à la proximité, ont invité les participants du Congrès chez eux pour y passer une soirée suédoise. Cet arrangement d'hospitalité a été très apprécié par les délégués. Comme alternative il y a avait un concert dans la Cathédrale de Stockholm, située tout près du Palais Royal.

Dans la soirée de mercredi le 17 juin, on a fait une excursion en bateau à travers l'archipel unique de Stockholm jusqu'à la forteresse historique de Waxholm. Là il y a eu musique, spectacle et un repas en plein air.

Jeudi le 18 juin, un banquet a été tenu à l'Hôtel de Ville de Stockholm, le lieu des festivités traditionnelles du Prix Nobel. Ce banquet comprenait un dîner suivi de spectacle et danse. Environ mille personnes étaient présentes au banquet.

Programme du jour pour les personnes accompagnantes

Lundi le 15 juin une croisière a été fait parmi les 14 îles sur lesquelles s'est développée la ville de Stockholm à travers sept siècles.

Mardi le 16 juin un tour en autocar a été arrangé, comprenant des visites au Palais Royal et au Jardin des Sculptures de Milles, situé en haut des eaux de Stockholm sur l'île de Lidingö.

Mercredi le 17 juin une excursion en bateau au Palais de Drottningholm a été organisée. Le bateau est parti de l'Hôtel de Ville et il a continué sur le lac Mälaren au Palais. On a servi un déjeuner à bord.

On Thursday 18 June, a bus journey to the Wasa Museum was arranged. On the same day a visit to Gustavsberg, Sweden's largest ceramic industry, was arranged, as well as a somewhat longer trip to Skokloster and Sigtuna, north-west of Stockholm.

Jeudi le 18 juin il y avait un voyage en autobus au Musée de Wasa. Le même jour on a arrangé une visite à Gustavsberg, la plus grande industrie céramique de Suède, aussi bien qu'un tour assez long à Skokloster et Sigtuna, au nord-ouest de Stockholm.

11. Post-Conference Tours

As announced in the bulletins, 14 post-conference tours had been prepared by the Post-Conference Tours Committee in co-operation with the Nordic Geotechnical Societies. The selection of routes in Denmark, Norway, Finland and Sweden was based on the availability of sites of geotechnical interest in combination with historic interest and natural beauty. Half of the tours originally planned were cancelled because of insufficient number of applicants and only seven post-conference tours were actually carried through. Due to careful replanning from the side of the Nordic Geotechnical Societies, all tours were very successful. In particular can be mentioned the tour to Northern Norway which included a trip to Spitsbergen, located near the Arctic. The actual post-conference tours and the number of attendants are listed in Table 4.

TABLE 4. POST CONFERENCE TOURS

Tableau 4. Tours Post-Congrès

Tours		Number of participants
Tours		Nombre de participants
1. Subway Systems, Saving Old Buildings, Rock Mechanics	(19-24 June)	48
Réseau du metro, Sauvetages de bâtiments anciens, Mécanique des roches	(19-24 Juin)	
3. Hydro-Electric Power Plants	(20-24 June)	25
Centrales hydroélectriques	(20-24 Juin)	
4. Hydro-Electric Power, Iron Mines, Road-construction in Fell Scenery	(20-23 June)	38
Energie hydraulique, Mines de fer, Construction de routes dans un	(20-23 Juin)	
paysage montagneux		
5. Soft Clay Problems	(20-22 June)	52
Problèmes d'argiles molles	(20-22 Juin)	
8. Rockfill Dams	(20-24 June)	68
Barrages en enrochements	(20-24 Juin)	
9. Snow and Rock Mechanics, Off-Shore Technology	(20-24 June)	46
Mécanique des roches et des neiges, Technologie de l'offshore	(20-24 Juin)	
10. Spitsbergen	(20-24 June)	36
Spitsbergen	(20-24 Juin)	
		313

12. Finance and sponsors

In addition to the registration fees and the earnings from the sale of the publishing rights of the Proceedings to Balkema, the Conference was financed by grants from the Swedish Council for Building Research, the National Swedish Board for Technical Development and from the Swedish National Road Administration. Economic support through advertising etc. was also gratefully received from a number of contractors and consulting companies in Sweden. All sponsors are listed in this volume on page 3.

Several companies and Government agencies generously provided personnel and other services free of charge for the extensive committee work prior to the Conference. The Swedish Geotechnical Institute should be particularly mentioned in this regard.

12. Finances et garants

En plus des droits d'inscription et les profits de la vente des droits de publication pour les comptes-rendus à Balkema, le Congrès a été financé par des subventions de la part du Conseil Suédois de Recherches sur la Construction et l'Urbanisme, de la Direction Nationale Suédoise pour le Développement Technique et de la Direction Nationale des Routes de Suède. En faisant de la publicité etc. on a reçu, avec reconnaissance, de l'aide financière d'un nombre d'entrepreneurs et sociétés de conseil en Suède. Dans ce volume, page 3 il y a une liste de tous les garants.

Plusieurs compagnies et des officines de l'Etat ont généreusement fourni du personnel et d'autres services gratuitement pour le travail de comité considerable avant le Congrès. L'Institut Géotechnique de Suède mérite d'être nommé particulièrement à cet égard.

13. Secretariat

The Organizing Committee was served by Professor U. Lindblom as Secretary General from September 1977 and onwards. He was assisted with professional services from Stockholm Convention Bureau and also by his secretary from AB Jacobsson & Widmark, Göteborg.

Much time and services were given by geotechnical engineers throughout Sweden and in particular by the members of the sub-committees, whose names are listed in page 5 in this volume. More than 50 persons were engaged in the preparatory work for the Conference in the years preceding the X.ICSME in Stockholm.

13. Secrétariat

Le Comité d'Organisation a été servi par le Professeur U. Lindblom comme Secrétaire Général à partir de septembre en 1977. Il a été assisté avec des services professionnelles par le Stockholm Convention Bureau et aussi par sa secrétaire de AB Jacobsson & Widmark à Göteborg.

Des ingénieurs géotechniques dans toute la Suède ont donné beaucoup de temps et services, surtout les membres des sous-comités, dont les noms sont notés dans ce volume, page 5. Plus de 50 personnes ont été engagées dans le travail préparatoire du Congrès dans les années qui précédaient le X.ICSME.



Conference publications in addition to the Proceedings



H.M. King Carl XVI Gustaf
Patron of the Conference



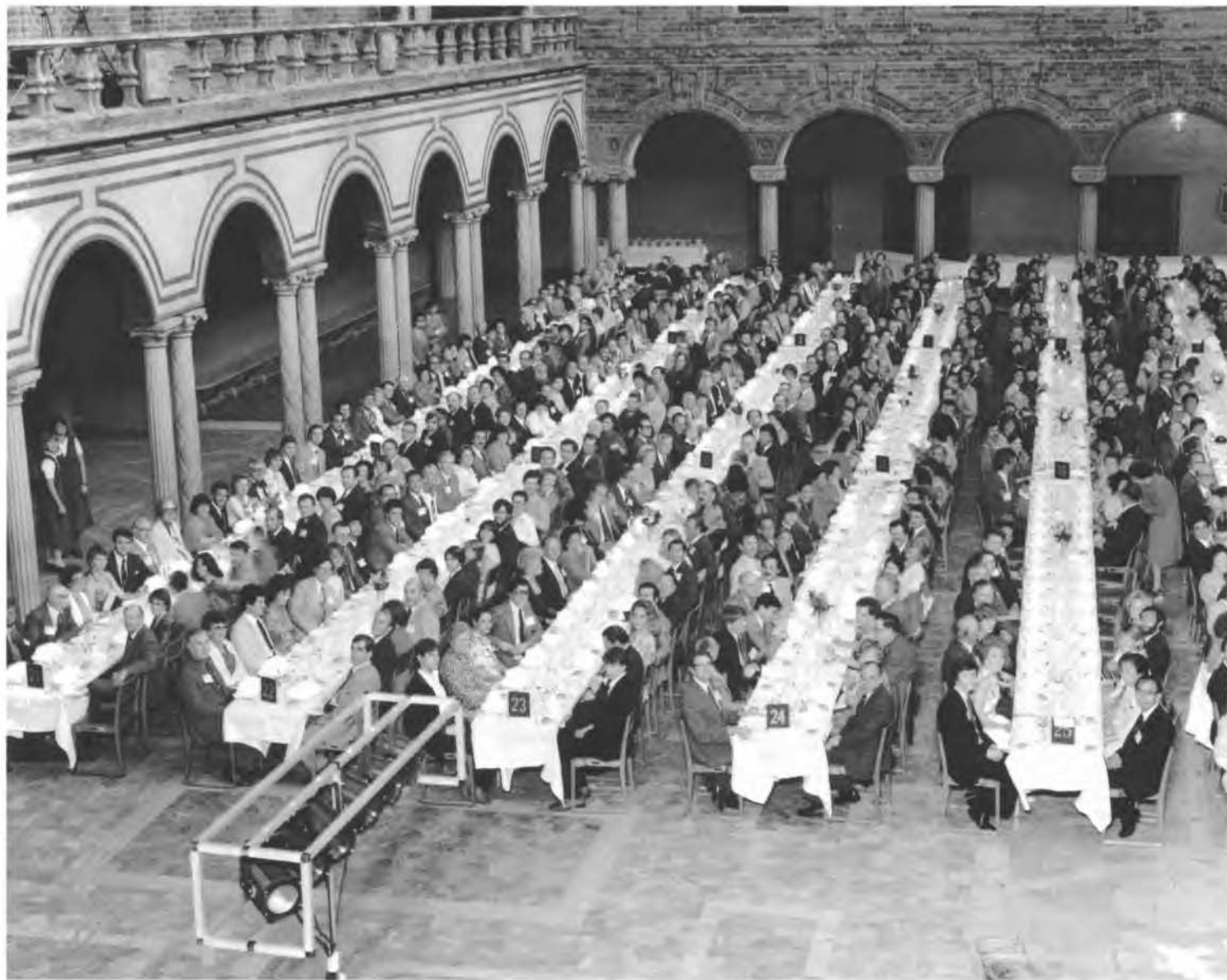
Prof. Sven Hansbo
Chairman of the Organizing
Committee



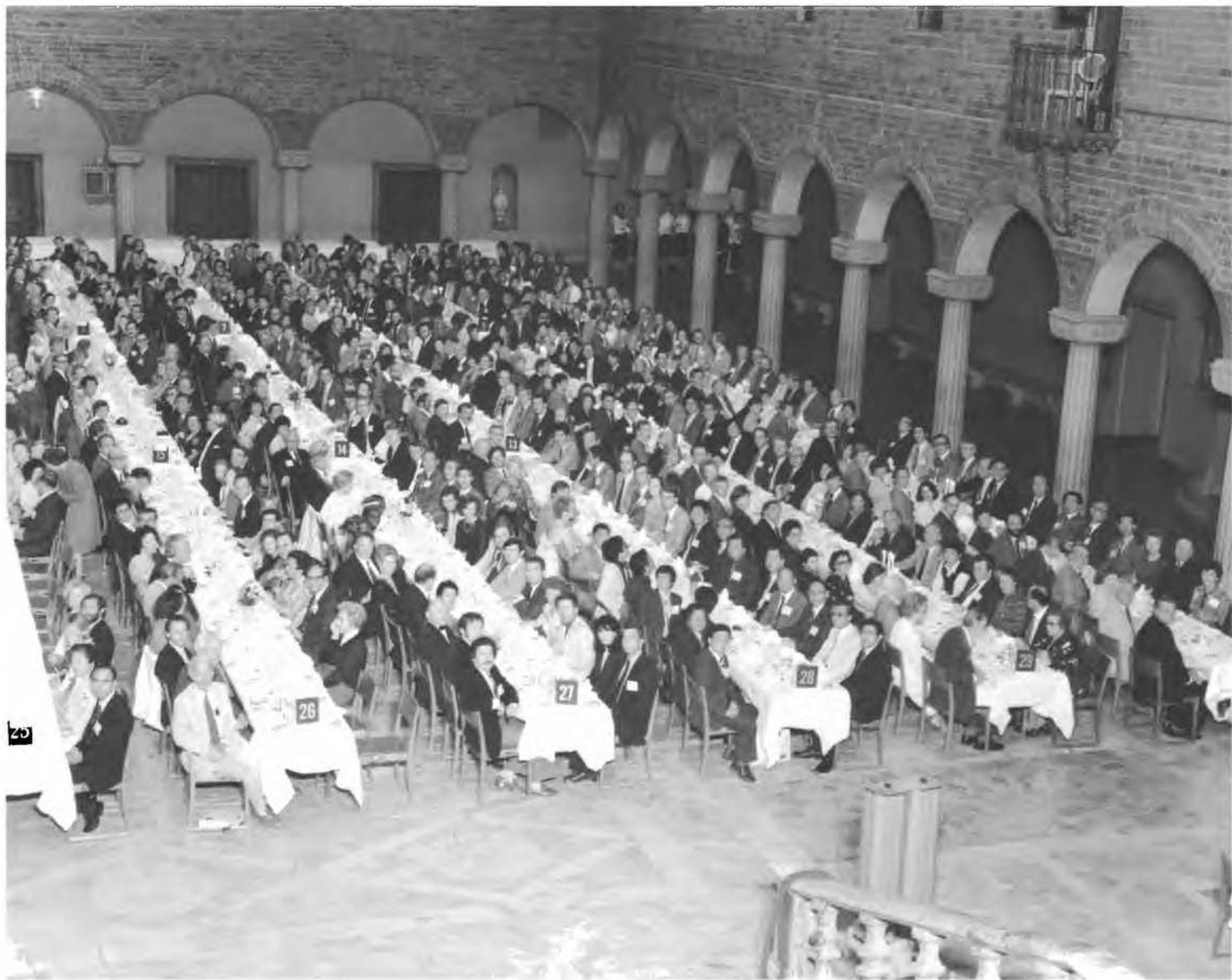
Prof. Ulf Lindblom
Secretary General of X.ICSMFE and
Secretary of the Organizing
Committee



Mrs. Mel Nash receives from Prof. Masami Fukuoka,
on behalf of the ISSMFE Executive Committee, the
Commemorative Plaque as an acknowledgement of the
late Secretary General Professor Kevin Nash



From the Banquet in the Stockholm City Hall on June 18.





From the Archipelago Excursion to the town of Waxholm on June 17.



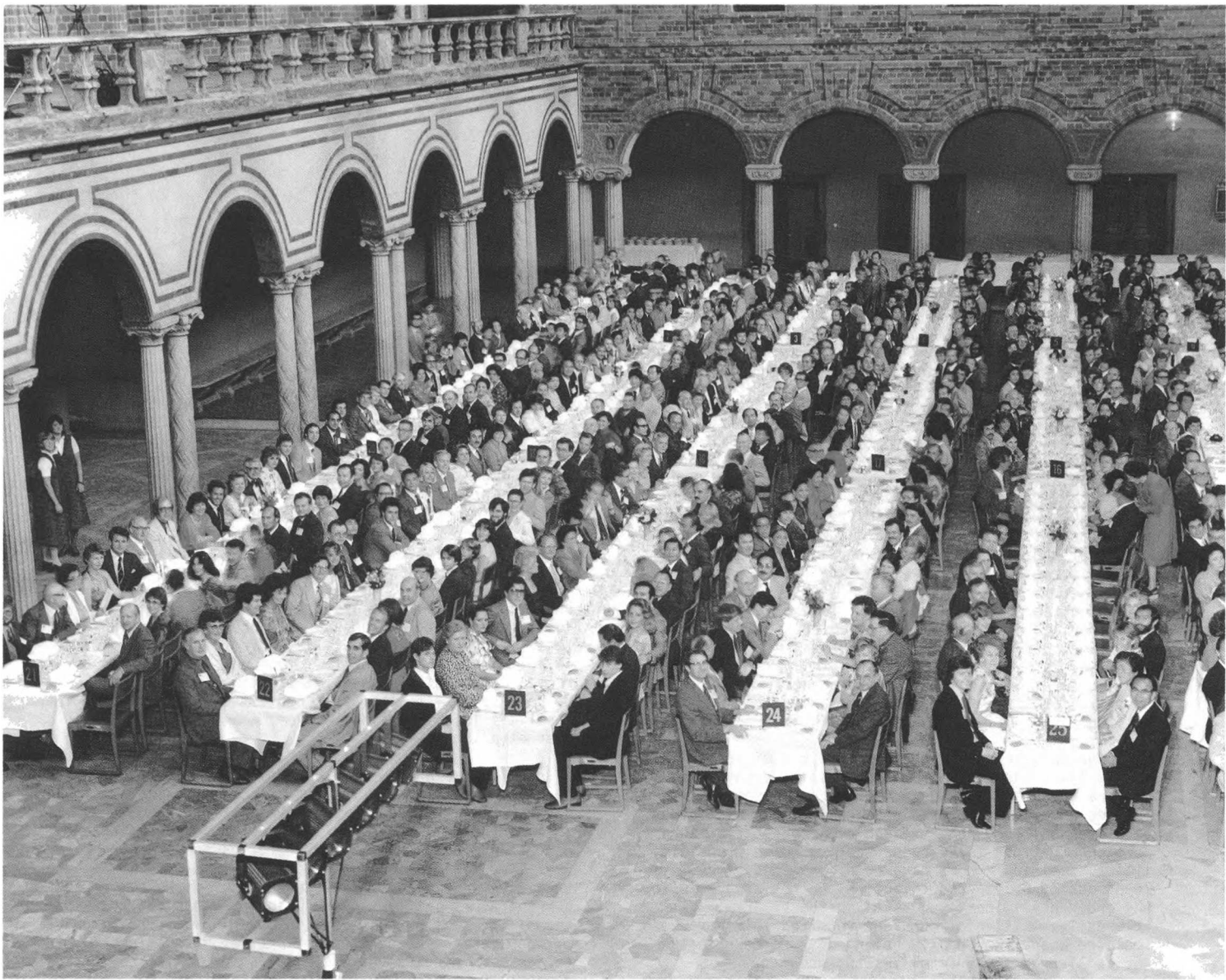
The boat leaves the Stockholm City Hall for the town of Mariefred (Post Conference Tour 5, Central Sweden).
Photo A.D.M. Perman



From the Welcome Reception at Skansen on June 14



Part of the podium of Session 1



From the Banquet in the Stockholm City Hall on June 18.

