

BULLETIN

OF THE INTERNATIONAL SOCIETY
OF SOIL SCIENCE



BULLETIN

DE L' ASSOCIATION INTERNATIONALE
DE LA SCIENCE DU SOL



MITTEILUNGEN

DER INTERNATIONALEN BODENKUNDLICHEN
GESELLSCHAFT



INTERNATIONAL SOCIETY OF SOIL SCIENCE
ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL
INTERNATIONALE BODENKUNDLICHE GESELLSCHAFT

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No. 8

1955

NEWS OF THE SOCIETY

Membership

Membership has risen steadily and on August 1st was 1468. Gratifying as this figure may be compared with 1215 on August 1st 1954, a certain slackness in paying membership dues gives less reason for satisfaction.

Members who are in arrears are reminded of the revision of Rule B-3, as approved at the Congo-meeting:

Membership in the Society shall lapse if the member is two years in arrears with his subscription, *payment being due on January 1st of each calendar year.*

The 6th International Congress of Soil Science, Paris 1956

As a result of the first circular re the Paris-congress already over 200 members (other than French) have been registered, provisionally, as participants. The 2nd circular will be forwarded to all members by the end of this year.

Those who wish to present a paper to one of the Commissions are reminded that the title of their paper should be in hands of the Organizing Committee, 3 Rue de Penthièvre, Paris (8e) not later than October 10th 1955.

The 5th International Congress of Soil Science, Léopoldville 1954.

Thanks and congratulations are due to the Belgian Organizing Committee which, as an achievement of the first order, published the 4 volumes (1823 pages!) of the Transactions of the Léopoldville-congress well within a year after the closing of the congress. For the benefit of those members who did not have the privilege to be present at the Belgian Congo event the contents of the 4 volumes, as far as scientific papers are concerned, is given below. It will give them at least an impression of the activities of the meeting.

The complete set is available at 1500 Belgian francs and should be ordered from:
Secretary General of the 5th International Congress of Soil Science
12 Rue aux Laines, BRUSSELS, Belgium

NOUVELLES DE LA SOCIÉTÉ

Membres

Un accroissement régulier du nombre des membres peut être rapporté. Le 1er août, 1468 membres furent inscrits. Bien que ce nombre soit satisfaisant en comparaison avec celui de 1215 du août 1954, il faut constater malheureusement un certain retard dans le paiement des cotisations.

Nous rappelons aux membres, qui ont omis de régler leur cotisation, la version nouvelle de l'article B-3 des statuts, adoptée au cours du congrès tenu au Congo:

La qualité de membre de la Société prendra fin si le membre n'a pas payé sa contribution pendant deux ans, *la cotisation étant due au 1er janvier de chaque année civile.*

Le 6ième Congrès International de la Science du Sol, Paris 1956.

Comme suite de la première circulaire, plus de 200 membres (non-français) se sont faits provisoirement inscrire comme participants. La seconde circulaire sera

envoyée aux membres vers la fin de cette année. Ceux qui voudraient présenter une communication à une des commissions sont priés de faire connaître le titre de leur communication au Comité d'Organisation, 3, rue Penthièvre, PARIS (8ième) avant le 10 octobre 1955.

Le 5ième Congrès International de la Science du Sol, Léopoldville 1954.

Nous devons des remerciements et des félicitations au Comité belge d'Organisation qui vient d'éditer, à peine un an après, les 4 volumes (1.823 pages) des comptes-rendus du congrès de Léopoldville. Pour donner aux membres qui n'ont pas eu l'avantage d'assister au congrès du Congo belge une idée des activités, nous publions ci-après le contenu de ces 4 volumes, en ce qui concerne les communications scientifiques. L'ensemble des publications peut être obtenu au prix de frs belges 1.500,— au Secrétariat Général du 5ième Congrès International de la Science du Sol, 12, rue aux Laines, BRUXELLES (Belgique).

NEUES AUS DER GESELLSCHAFT.

Mitgliedschaft

Über ein ständiges Anwachsen der Zahl der Mitglieder kann berichtet werden. Am 1. August 1955 war die Zahl von 1468 erreicht. So erfreulich diese Zahl im Vergleich zu 1215 am 1. August 1954 sein mag, gibt doch eine gewisse Nachlässigkeit bei der Zahlung der Mitgliedsbeiträge weniger Anlass zur Zufriedenheit.

Mitglieder, die mit ihren Beiträgen im Rückstand sind, seien an die neue Fassung des § 3-B wie sie auf den Congo-Kongress genehmigt wurde, erinnert: Die Mitgliedschaft in der Gesellschaft erlischt, wenn das Mitglied mit seinem Beitrag zwei Jahre im Rückstand ist, *der Beitrag ist am 1. Januar eines jeden Kalender-Jahres fällig.*

Der 6. Internationale bodenkundliche Kongress, Paris 1956.

Auf Grund des ersten Rundschreibens sind bereits mehr als 200 Mitglieder (nicht französisch) als vorläufige Teilnehmer des Paris-Kongresses eingetragen. Das zweite Rundschreiben geht an alle Mitglieder am Ende des Jahres.

Alle, die in einer der Kommissionen einen Vortrag zu halten wünschen, werden freundlichst daran erinnert, dass der Titel ihres Vortrages bis spätestens zum 10. Oktober 1955 dem Organisations-Komitee, 3 Rue de Penthièvre, Paris (8e), mitzuteilen ist.

Der 5. Internationale bodenkundliche Kongress, Leopoldville 1954

Dank und Glückwünsche sind dem Belgischen Organisation-Komitee auszusprechen, welches als abschliessende hervorragende Leistung die 4 Bände (1823 Seiten!) der Berichte des Leopoldville-Kongress innerhalb eines Jahres nach dem Abschluss des Kongress veröffentlichte. Für jene Mitglieder, die nicht die Gelegenheit hatten in Belgisch-Kongo dabei zu sein, ist der Inhalt der 4 Bände, soweit er wissenschaftliche Arbeiten betrifft, unten wiedergegeben. Er wird ihnen einen Eindruck über die erfolgreiche Tagung vermitteln.

Die vollständige Folge ist zum Preis von 1500,— belgischen Franken erhältlich und kann bestellt werden beim

Generalsekretär des 5. Internationalen bodenkundlichen Kongresses
12 Rue aux Laines, Brüssel, Belgien.

COMMISSION I

Physique du sol — Soil physics.

- I. 1. S. HÉNIN et E. LE BORGNE. — Sur les propriétés magnétiques des sols et leurs interprétations pédologiques.
- I. 2. S. CAILLÈRE, P. BIROT et S. HÉNIN. — Etude expérimentale du mécanisme de la désagrégation de quelques roches éruptives et métamorphiques.
- I. 3. P. VAGELER. — The triple potential of the soil water and the experimental determination of the „flexpoint“.
- I. 4. E. R. FOUNTAINE and P. C. J. PAYNE. — Causes of non scouring in soil-working implements.
- I. 5. D. PAYNE. — The determination of the approximate surface areas of soil crumbs.

- I. 6. D. PAYNE. — Some factors affecting the breakdown of soil crumbs on rapid wetting.
- I. 7. H. C. PEREIRA. — Soil structure criteria for tropical crops.
- I. 8. W. W. EMERSON. — The effect of various grasses and lucerne on the cohesion of soil crumbs.
- I. 9. M. RIM. — Inverse moisture distribution in soil profiles: A manifestation of the dependence of soil moisture characteristics on compressive stress.
- I. 10. E. FREI. — Transpiration and growth of sunflower plants as a function of the soil moisture tension.
- I. 11. E. A. BERNARD. — Fluctuations comparées du déficit d'énergie libre des sols bons et mauvais rétenteurs d'eau, dans le déroulement naturel des fluctuations écoclimatiques.
- I. 12. E. A. BERNARD. — Sur la caractérisation physique des sols souhaitée par l'écométéorologue pour l'étude rationnelle des interactions atmosphère — sol — végétation.
- I. 13. M. DE BOODT and L. DE LEENHEER. — The practical meaning of pore sizes with respect to the texture of soil.
- I. 14. L. DE LEENHEER and M. DE BOODT. — Discussion on the aggregate analysis of soils by wet sieving.
- I. 15. S. T. JENSEN. — Determination of water content and specific gravity in soil samples by means of pycnometers.
- I. 16. M. HALLAIRE. — Diffusion capillaire de l'eau dans le sol et profils hydriques.
- I. 17. J. RIQUIER. — Commentaires sur l'humidité du sol du 15 février 1952 au 15 février 1953 à Tananarive (Madagascar).
- I. 18. SHUNSUKE TAKAGI. — Thermodynamics of the capillary rise of soil moisture and Neumann's potential of capillarity.
- I. 19. A. C. SCHUFFELEN and H. A. MIDDELBURG. — Structural deterioration of lateritic soils through liming.
- I. 20. E. W. RUSSELL and J. J. BASINSKI. — The effect of heavy dressings of calcium salts on the consistency of clay soils and subsoils.
- I. 21. G. PASSERINI. — Sur l'évaporation du sol (Note préliminaire).
- I. 22. P. GROSSI. — Recherches expérimentales sur la désintégration hydro-moléculaire des mélanges d'argile, limon et sable (Note première).
- I. 23. G. PASSERINI. — Sur la dégradation des sols argileux en pente, à la suite des actions hydro-météoriques.
- I. 24. P. GIUDICI. — Sur la pénétration de l'eau dans le sol argileux.
- I. 25. P. GIUDICI. — Evaluation des facteurs déterminant la désintégration hydro-moléculaire des agrégats terreux.
- I. 26. P. GIUDICI. — Normes à suivre dans la détermination du coefficient de filtration avec la méthode à charge variable.
- I. 27. G. BBRYSSINE. — Réflexions sur l'étude physique des sols.

COMMISSION II

Chimie du sol — Soil chemistry.

- II. 1. A. OKUDA and S. HORI. — Chromatographic investigation of amino acids in humic acid and alkaline alcohol lignin.
- II. 2. P. VAGELER. — Calculation of natural harvests and fertilizer-necessity by soil analyses.
- II. 3. H. LAUDELOUT et J. MEYER. — Les cycles d'éléments minéraux et de matière organique en forêt équatoriale congolaise.
- II. 4. J. C. VAN WESEMAEL and J. J. LEHR. — The influence of salts on the solubility of phosphate in iron rich soils.
- II. 5. C. BLOOMFIELD. — The deflocculation of kaolin by tree leaf leachates.
- II. 6. L. DE LEENHEER et L. MAES. — Influence de la nature du sol sur l'étude comparative de la détermination de la capacité de sorption par différents liquides de percolation.
- II. 7. L. MAES et L. DE LEENHEER. — Solubilité de la matière organique dans le fluoforme de sodium et degré d'insaturation comme moyen de caractérisation de l'humus dans des sols sablonneux bruns et gris sous climat tempéré humide (Belgique).
- II. 8. H. W. VAN DER MAREL. — The amount of exchangeable cations of K-fixating soils.
- II. 9. E. W. RUSSELL. — The availability of sorbed or fixed phosphates to plants.

- II. 10. H. LAUDELOUT et R. GERMAIN, avec la collaboration de W. KESLER. — Premiers résultats sur la dynamique chimique des jachères herbacées et des pâtures à Yangambi.
- II. 11. M. VAN RUYMBEKE et L. DE LEENHEER. — Etude comparative d'analyses granulométriques par décantations successives et par l'hydromètre à chaîne.
- II. 12. L. DE LEENHEER and F. APPELMANS. — Influence of the treatment of soil-samples with H_2O_2 on the exchange-capacity of the mineral soil-fraction.
- II. 13. L. A. VALENTE ALMEIDA et R. PINTO RICARDO. — La matière organique des „Terres noires” d'Angola.
- II. 14. TINSLEY and MAUNG KYAW ZIN. — The isolation of ligno-protein from soil.
- II. 15. A. C. SCHUFFELEN and H. A. MIDDELBURG. — A rapid method for the determination of base exchange capacity of plant roots.
- II. 16. F. A. VAN BAREN and H. KIEL. — The mineralogy of an apparently autochthonous soil profile in French Equatorial Africa.
- II. 17. D. H. YAALON. — Physico-chemical relationships of $CaCO_3$, pH, and CO_2 in calcareous soils.
- II. 18. S. MITSUI, S. ASO, K. KUMAZAWA and T. ISHIWARA. — The nutrients uptake of rice plants as influenced by hydrogen sulfide and butyric acid abundantly evolving under waterlogged soil condition.
- II. 19. J. A. BONNET and A. R. RIERA. — Radioactive studies with P^{32} in tropical soils and crops of Puerto Rico.
- II. 20. P. J. LIVENS. — Degré de saturation d'une séquence de sols forestiers sur limon loessique.
- II. 21. G. WAEGEMANS et S. HENRY. — La couleur des latosols en relation avec leurs oxydes de fer.
- II. 22. L. DE LEENHEER et M. VAN RUYMBEKE. — L'analyse granulométrique par l'hydromètre à chaîne de terres riches en matières organiques.
- II. 23. J. J. FRIPIAT, M. C. GASTUCHE et G. VANCOMPENOLLE. — Les groupes hydroxy-les de surface de la kaolinite et sa capacité d'échange ionique.
- II. 24. P. J. LIVENS et R. VANSTALLEN. — Le pH comme indice du degré de saturation.
- II. 25. J. J. FRIPIAT, M. C. GASTUCHE et J. COUVREUR. — Nature de la fraction argileuse des sols du Congo belge et du Ruanda-Urundi.
- II. 26. M. C. GASTUCHE, J. DELVIGNE et J. J. FRIPIAT. — Altération chimique des kaolinites.
- II. 27. A. S. DE ENDREY. — The organic matter content of Gold Coast soils.
- II. 28. P. J. LIVENS et H. DEGRY. — L'extraction de matières humiques par le fluorure d'ammonium.
- II. 29. F. APPELMANS et L. DE LEENHEER. — Existe-t-il une corrélation entre les teneurs en matières organiques et en carbonate de calcium dans les sols des polders marins belges?
- II. 30. D. LAMBERTS et P. J. LIVENS. — L'accumulation d'oxydes de fer dans les sols sur limon loessique.
- II. 31. L. MARTIN et A. ROTTI. — Aperçu sur l'utilisation des méthodes biométriques dans l'analyse chimique du sol.
- II. 32. A. VAN DEN HENDE, A. COTTENIE et L. MARTIN. — Etude critique sur la sensibilité et l'efficacité de différentes méthodes d'analyse chimique du sol.
- II. 33. A. WILD. — The concentration of phosphate in the soil solution.
- II. 34. S. HÉNIN. — Nouveaux travaux concernant la synthèse des minéraux argileux.

COMMISSION III

Biologie du sol — Soil biology.

- III. 1. A. R. PRÉVOT, M. RAYNAUD, G. FISCHER et B. BIZZINI. Recherches sur la ligninolyse bactérienne dans le sol.
- III. 2. Y. DOMMERMUES. — Biologie des sols forestiers du Centre et de l'Est de Madagascar.
- III. 3. Y. DOMMERMUES et C. MOUREAUX. — Etat des recherches de microbiologie du sol à Madagascar.
- III. 4. Y. DOMMERMUES. — Etude de la biologie des sols tropicaux (Programme de recherches).
- III. 5. O. MARTRE-COPPIER. — Essai sur l'évaluation de l'activité des „Azotobacter” dans les sols.

- III. 6. J. POCHON et J. AUGIER. — Premières recherches sur l'attaque des hémicelluloses dans le sol.
- III. 7. J. AUGIER. — Techniques permettant d'obtenir des silicogels stériles.
- III. 8. J. LAJUDIE. — Influence des milieux et des conditions de culture sur l'équilibre de la microflore de la panse „in vitro”.
- III. 9. M. A. CHALVIGNAC. — Recherches sur les caractères des „Cellvibrio”.
- III. 10. D. LAVERGNE. — Représentation graphique de l'activité microbiologique des sols.
- III. 11. H. DE BARJAC. — Essai sur la microflore des tourbières.
- III. 12. C. MOUREAUX. — Quelques aspects microbiologiques de divers sols du cristallin central de Madagascar.
- III. 13. J. MEYER. — Ecologie des moisissures du sol et leur relation avec la végétation.
- III. 14. J. D. NEWTON. — Microbial maintenance of nitrogen in Western Canada's grey wooded, black earth and brown prairie soils.
- III. 15. D. A. VAN SCHREVEN. — The influence of a wet rice culture on the survival of Tobacco virus I, „Phytophthora parasitica” var. „nicotianae” and „Pseudomonas solanacearum” in tropical soil.
- III. 16. M. TSCHAPEK, A. GARBOSKY and N. GIAMBIAGI. — Determination of the sum of substances available in the soil for „Azotobacter”.
- III. 17. M. TSCHAPEK and N. GIAMBIAGI. — The formation of Liesegang's rings by „Azotobacter” due to O₂-inhibition.
- III. 18. J. E. ROMBOUTS. — Some soil relations of the endotrophic mycorrhiza of cacao in Trinidad, B.W.I.
- III. 19. M. B. MORRIS. — Some notes on the affinity between strains of „Chromobacter violaceum” and „Chromobacter ianthinum” isolated from Trinidad soils.
- III. 20. V. SUTER. — The possibility of antibiotic control of the microflora of the Bachac nest.
- III. 21. W. C. G. FORSYTH. — The synthesis of polysaccharides by Bacteria isolated from a tropical soil.
- III. 22. J. MEIKLEJOHN. — Notes on nitrogen-fixing bacteria from East African soils.
- III. 23. H. FRANZ. — Sur l'importance de l'équilibre des biocénoses terricoles pour la fertilité des sols.
- III. 24. P. SIMONART et F. PEETERS. — Acides aminés libres dans l'humus.
- III. 25. P. SIMONART et R. BUYSE. — Bactéries et acides aminés libres dans le sol.
- III. 26. L. VILAS, G. TEJERINA et M. RUBIO. — Présence des bactéries du sol sous leur forme L et leur forme filtrable.

COMMISSION IV

Fertilité du sol et nutrition des plantes.

Soil fertility and plant nutrition.

- IV. 1. R. FAUCK. — Premières observations sur les relations engrais verts, engrais chimiques, en Moyenne Casamance.
- IV. 2. J. KORTLEVEN. — Soil organic matter and plant growth.
- IV. 3. H. NICOL. — pL, A numerical soil characteristic.
- IV. 4. D. H. SAUNDER. — Assessment of soil fertility for advisory purposes in S. Rhodesia.
- IV. 5. E. W. BOLLE-JONES. — The interrelationships of magnesium, potassium and phosphorus, and their effect on the growth and composition of „Hevea brasiliensis”.
- IV. 6. P. ROCHE, J. VELLY et B. JOLIET. — Fertilisation des sols de rizière dans la région du lac Alaotra (Madagascar).
- IV. 7. F. STEENBERG. — On the release of plant nutrient from minerals.
- IV. 8. J. VAN GARDEREN. — The superphosphate-yield curve in fertilizer experiments.
- IV. 9. R. A. WEBB. — The investigation of mineral deficiencies of some African soils.
- IV. 10. K. R. MIDDLETON. — Distribution of total phosphate and its relation to available phosphate in certain Sudan soils.
- IV. 11. K. DE CAESTECKER et L. DE LEENHEER. — Densité végétative des céréales sur divers types de sols et son influence sur la productivité.
- IV. 12. D. F. STENUIT et R. PIOT. — L'influence de la réaction du sol sur le rendement des cultures agricoles.

- IV. 13. D. F. STENUIT. — La détermination de la carence en magnésium dans les sols belges.
- IV. 14. D. F. STENUIT et R. PIOT. — Champs d'essais comparatifs sur magnésium avec différents engrais potassiques.
- IV. 15. M. GREENWOOD. — Sulphur deficiency in groundnuts in Northern Nigeria.
- IV. 16. A. VAN DEN HENDE et R. DE LOOSE. — Quelques possibilités de l'usage du P^{32} dans l'étude de la fertilité du sol et de la nutrition des plantes.
- IV. 17. G. D. SCARSETH. — Diagnostic techniques to determine fertility status.
- IV. 18. L. A. VALENTE ALMEIDA et V. H. BROCHADO DE MIRANDA. — Les formes de phosphore dans les sols d'Angola.
- IV. 19. A. S. DE ENDREDDY and C. W. MONTGOMERY. — Some nutrient aspects of the Gold Coast forest soils.
- IV. 20. E. BELLIS. — Review of fertilizer responses in Kenya.
- IV. 21. H. A. MIDDELBURG. — Tobacco frencing and manganese injury.
- IV. 22. J. D. FERWERDA. — Fertilizing of the African oil palm.
- IV. 23. H. MOULINIER. — Variations saisonnières de certains facteurs de la fertilité des sols.
- IV. 24. H. BROESHART. — The use of foliar analysis in the oil palm culture.
- IV. 25. S. MITSUI, M. NAKAGAWA, A. BABA, K. TENSHO and KIKUO KUMAZAWA. — The contact solutonal uptake of fused magnesium phosphate (labeled with P^{32}) by acidoidal plant root and unsaturated soil colloid.
- IV. 26. A. COTTENIE et A. VAN DEN HENDE. — La variabilité de la teneur en éléments minéraux dans les tissus végétaux sous l'influence de la fumure.
- IV. 27. F. ALTEN. — Praktische Gesichtspunkte zur Gesunderhaltung von Betrieb und Boden.
- IV. 28. M. V. HOMES, J. R. ANSIAUX et G. VAN SCHOOR. — Effet d'une fumure minérale équilibrée sur le maïs cultivé dans une terre provenant du Congo.
- IV. 29. M. V. HOMES, G. VAN SCHOOR et J. R. ANSIAUX. — Détermination de la fumure en champs par la méthode des variantes systématiques.
- IV. 30. G. H. J. VAN SCHOOR. — Composition minérale du palmier à huile „*Elaeis guineensis* JACQ.”, en fonction du milieu nutritif.
- IV. 31. A. ANGLADETTE. — Les engrais dans les territoires africains intertropicaux de l'Union française.

COMMISSION V

Genèse du sol, classification et cartographie.

Soil genesis, classification and cartography.

- V. 1. R. MAIGNIEN. — Formation de cuirasses de plateaux, région de Labé (Guinée française).
- V. 2. R. MAIGNIEN. — Cuirassement de sols de plaine-Ballay (Guinée française).
- V. 3. R. MAIGNIEN. — Les sols subarides en A.O.F.
- V. 4. J. P. FOX. — Note on the occurrence of a red yellow podzolic soil and associated ground water podzol on Viti Levu, Fiji.
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- V. 7. J. D'HOORE. — Clay mineral and gibbsite crystals as clues to the mode of formation of ancient sesquioxide accumulation zones.
- V. 8. B. S. ELLIS. — Some observations on the classification of tropical soils.
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- V. 11. W. E. CALTON. — Some East African soil complexes. I — Zanzibar Protectorate.
- V. 12. W. E. CALTON. — Some East African soil complexes. II. — Tanganyika.
- V. 13. H. BRAMMER and A. S. DE ENDREDDY. — The tropical black earths of the Gold Coast and their associated vleis soils.
- V. 14. W. KUBIENA. — Micromorphology of laterite formation in Rio Muni (Spanish Guinea).
- V. 15. R. HAMILTON. — A note on the black soils of the Gold Coast.
- V. 16. P. BURINGH. — The analysis of pedological elements in aerial photographs.

- V. 17. P. BURINGH. — Soil and land classification in Dutch New Guinea.
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- V. 22. M. RIM. — The weathering of natural clays underground, as inferred from the preservation of unbaked clay implements found at archaeological sites.
- V. 23. M. DEL LLANO. — Notas a la nomenclatura sobre suelos ecuatoriales.
- V. 24. N. LENEUF. — Les terres noires du Togo.
- V. 25. Y. KAMOSHITA. — Soil types in Japanese paddy rice field.
- V. 26. A. LAPLANTE. — Les sols rouges latéritiques formés sur les basaltes anciens au Cameroun.
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- V. 30. A. FRANCO. — Soils in the region of Seridó, R. G. N.
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- V. 36. E. M. CHENERY. — Acid sulphate soils in Central Africa.
- V. 37. C. MOUREAUX. — Description d'un sol salé rouge dans le Sud-Ouest de Madagascar.
- V. 38. P. SEGALIN. — Sur l'existence de sols latéritiques bruns à Madagascar.
- V. 39. E. MÜECKENHAUSEN. — A plan of a classification system of the soils of Germany.
- V. 40. C. R. VAN DER MERWE. — Subtropical brown forest soils (Low Veld).
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- V. 50. J. M. BRUGIERE. — Les argiles faiblement latéritiques à concrétions ferrugineuses de la Vallée du Niari (Moyen-Congo).
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- V. 73. A. DE CRAENE. — Les sols de pédimentation ou les sols à „stone-line” du N.-E. du Congo belge.

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- VI. 3. F. R. DREIBELBIS and L. L. HARROLD. — *The role of soil in the hydrologic cycle.*
- VI. 4. R. FAUCK. — Les facteurs et les intensités de l'érosion en Moyenne Casamance.
- VI. 5. W. D. ELLISON. — Mechanics of water erosion.
- VI. 6. J. V. BOTELHO DA COSTA and A. L. AZEVEDO. — Land classification for irrigation in Angola.
- VI. 7. J. K. BASU. — A survey of the recent developments in soil conservation in India.
- VI. 8. A. L. AZEVEDO. — The technology of peaty soils in Mozambique and Angola.
- VI. 9. J. G. STEELE, K. C. VERNON and C. W. HEWITT. — A capability grouping of the soils of Jamaica, B.W.I.
- VI. 10. R. E. STORIE. — Land classification as used in California for the appraisal of land for taxation purposes.
- VI. 11. T. N. JEWITT and J. S. MANTON. — Soil exhaustion in the Goz sands of the Sudan.
- VI. 12. T. N. JEWITT and K. R. MIDDLETON. — Irrigation problems in the Sudan.
- VI. 13. T. N. JEWITT. — Soil conservation in the Sudan.
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- VI. 15. O. J. KELLEY. — Soil problems related to irrigation.
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- VI. 17. CENTRAL ROAD RESEARCH INSTITUTE, DELHI. — A suggested classification of black cotton soils of India.
- VI. 18. H. C. PEREIRA. — Soil water storage under catchment area vegetation.

- VI. 19. M. Y. SHAWARBI. — The comparative effects of certain soil treatments on cotton yield in Egypt.
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- VI. 22. J. LOGAN. — Chemical quality of irrigation water in the Ruzizi Valley, Belgian Congo and Ruanda-Urundi.
- VI. 23. R. VAN GANSE. — Les sols congolais dans la construction routière.
- VI. 24. E. M. BECKMANN. — The latest achievement in soil conservation in Africa South of the Sahara.

**NEWS OF THE COMMISSIONS - NOUVELLES DES COMMISSIONS -
MITTEILUNGEN DER KOMMISSIONEN**

The French Organizing Committee of the 6th Congress designated the following members respectively as Vice-President and as Secretary of the various Commissions (Rules I-4):

Le Comité français d'Organisation du 6me Congrès a désigné respectivement comme Vice-Président et comme Secrétaire des diverses Commissions les membres suivants (Règlement I-4):

Die nachfolgenden Mitglieder wurden vom Französischen Organisationskomitee des 6ten Kongresses zum Vize-Präsident resp. Schriftführer der verschiedenen Kommissionen gewählt (Satzung I-4):

Commission I

- M. GESLIN. — Directeur de la Station de Climatologie, Versailles.
M. BETREMIEUX. — Laboratoire des Sols, Route de St Cyr, Versailles.

Commission II

- M. DROUINEAU. — Directeur de la Station Agronomique à Antibes (Alpes Marit.)
M. MOREL. — Ecole Nationale d'Agriculture à Grignon (S & O).

Commission III

- M. POCHON. — Institut Pasteur, Rue du Dr Roux, Paris (XV).
M. BLACHERE. — Ibid.

Commission IV

- M. CHAMINADE. — Ecole d'Agriculture, Rue Hardy, Versailles.
M. QUIDET. — Potasse d'Alsace, 11 Ave. Friedland, Paris.

Commission V

- M. DUCHAUFOUR. — Ecole Nationale des Eaux et Forêts, 14 Rue Girardet, Nancy.
M. J. DUPUIS. — Laboratoire de Géologie - 16 Rue Claude Bernard, Paris (V).

Commission VI

- M.
M. FOURNIER. — O.R.S.O.M., 20 Rue Monsieur, Paris (VII).

**NEWS OF THE NATIONAL SOCIETIES — NOUVELLES DES SOCIÉTÉS
NATIONALES — NEUES DER GESELLSCHAFTEN IN EINZELNEN LÄNDER.**

Deutsche Bodenkundliche Gesellschaft

Die diesjährige Haupttagung hat vom 26. Sept. - 2. Okt. 1955 in Göttingen stattgefunden. Die Tagung begann mit einer öffentlichen Vortragsreihe am 26.9. auf der über die derzeitigen wissenschaftlichen Probleme der Bodenkunde und ihrer Grenzgebiete berichtet wurde. An zwei weiteren Tagen fand die Sitzung der einzelnen Kommissionen statt mit zahlen Vorträgen. Die 5. Kommission hat sich mit der Systematik der deutschen Böden, die von Prof. Mückenhausen aufgestellt wurde, befasst. Die letzten 4 Tage waren Exkursionen in die Göttinger Umgebung, die Hilsmulde, in den Raum Hann. München und in den Harz gewidmet. Die Deutsche Bodenkundliche Gesellschaft hat z.Zt. 210 Mitglieder.

Society of the Science of Soil and Manure, Japan.

The Society, established in 1914, now has 1780 members. It publishes monthly, in Japanese, the "Journal of the Society of the Science of Soil and Manure" with English summary. As a means of contact with colleagues overseas the Society undertook in May 1955 the publishing of a new scientific journal written in English "Soil and Plant Food". It is endeavoured to issue this periodical quarterly.

The Spring session was held from 3-5 April in Tokyo. At that occasion 210 scientific papers were read, whereas a symposium was held on (1) magnesium problems and (2) soil survey methods. The Autumn session was recently held from 28-29 October at Iwata, Shizuoka Pref. with a one-day excursion to the polder lands and the acid soils area near-by.

The former president of the Society Toyotaro Seki passed away on 2 March 1955.

New Zealand Society of Soil Science.

The New Zealand Society of Soil Science was formed in 1953 and now has over 160 members, all of whom are members of the International Society. The Society has just published the *Proceedings of the First Conference* and the *First Presidential Address*. The 32 page Proceedings contains eleven contributions to three symposia: "Forest Soils", "Aims and Values of Soil Analysis" and "Pumice Soils" as well as abstracts of eight other papers. The Presidential Address by Mr. N. H. Taylor on "The Role of Soil Science in New Zealand Problems" gives an account of the origin of soil science and shows how it is being used today in the solution of a number of important New Zealand problems.

These publications may be obtained from the Secretary, N. Z. Society of Soil Science, Soil Bureau, 54 Molesworth St., Wellington, N.1., New Zealand, at a price of four shillings and one shilling respectively (60c and 15c), post free.

Soil Science Society of America

The 1955 annual meetings of the SSSA were held at Davis, California, August 15-19, inclusive. Dr D. W. Thorne, Director of the Utah Agricultural Experiment Station, became the new president of the Soil Science Society of America, succeeding Dr M. B. Russell of the University of Illinois. Dr L. B. Nelson of the Soil and Water Conservation Research Branch, U.S. Department of Agriculture, was elected new vice-president of the Society. Many of the members attending the SSSA annual meetings expressed an interest in the forthcoming International Congress of Soil Science to be held in Paris next year. It is expected that a large delegation of soils people from the U.S.A. will attend the Congress.

l'Association Yougoslave de la Science du Sol.

Cet Association a tenu son premier congrès national à Portoroz, le 19 - 22 Septembre 1955. Le congrès fut suivi de 5 jours d'excursions.

**MISCELLANEOUS NEWS - INFORMATIONS DIVERSES -
VERMISCHTE MITTEILUNGEN**

Dr Charles E. KELLOGG honoured.

Dr Charles E. Kellogg, Assistant Administrator for Soil Survey, USDA Soil Conservation Service, was presented an award for distinguished service by Michigan State University on August 19, 1955, on the occasion of the centennial anniversary of his alma mater.

The citation accompanying the award reads, in part:

"Throughout your long and distinguished career as a soil scientist you have labored effectively to benefit mankind the world over by furthering the knowledge and use of the soil."

Dr Kellogg received his B. S. degree from Michigan State in 1925 and the Ph.D. in 1929. Later he was on the staff of the University of Wisconsin and of the North Dakota Agricultural College. He came into the Department of Agriculture in 1934 and has headed the Soil Survey since that time.

Dr E. W. RUSSELL appointed Director E.A.A.F.R.O.

Dr E. W. Russell, Department of Agriculture, Oxford, British representative on the Council of the ISSS has been appointed Director of the East African Agriculture and Forestry Research Organisation, Kikuyu, Kenya. He succeeds Sir Bernard A. Keen.

NEW ZEALAND SOIL BUREAU SILVER JUBILEE.

On June 29, 1930, the Prime Minister of New Zealand authorized a reconnaissance soil survey of Central North Island as part of investigations into "bush sickness" — a wasting disease of sheep and cattle. Two members of the Geological Survey (L. I. Grange and N. H. Taylor) and two chemists were assigned to the project under the direction of T. Rigg (later Sir Theodore Rigg) of the Cawthron Institute, Nelson. In this manner the Soil Survey first became an organized body; it has since developed into the New Zealand Soil Bureau with a staff of 70 engaged on a wide range of scientific activities related to the soil. To celebrate the 25th anniversary of its inception the Soil Bureau has arranged several functions and its annual conference in September, including a public exhibition of its work. A noted guest will be Dr E. W. Russell who has arrived from England to take part.

As the Soil Survey originated in the period when the pedology of the soil profile was becoming clear to the western world, it was able to take full advantage of the new concepts. Initial field work succeeded in relating the incidence of "bush sickness" to soils derived from particular volcanic ash-showers which are now known to be deficient in cobalt. Not only did it bring the Soil Survey into immediate prominence, but it also established the importance of the soil-forming factors. It was followed by detailed and district surveys where the influence of these factors was worked out in detail and methods of survey were perfected. At the outbreak of World War II, the need for a broad soil survey of New Zealand found expression in a general survey of the North Island (44,000 square miles) where the soils were mapped in "sets" on the scale of 4 miles to an inch. From the four-mile map single-factor maps were drawn, and these included land classification and fertility maps which finally established the role of soil surveys in New Zealand.

By 1946 the wide sphere of activities of the Soil Survey caused it to be reorganized as the Soil Bureau with four divisions — Soil Survey, Soil Chemistry, Soil Physics and Soil Biology. These Divisions undertook many projects such as the Soil Map of New Zealand, the four-mile survey of the South Island, surveys of Pacific Islands including Fiji, surveys of the nature and distribution of clay minerals in New Zealand soils and of element availability using a grass indicator plant, soil corrosion on the main soils, foundations and earthworks (soil mechanics), soil moisture investigations and deterioration of soil structure under cultivation, pot experiments, a survey of New Zealand earthworms, a survey of soil copper using *Aspergillus niger* and many others. Many of these projects indicate the value of the New Zealand soil map in interpolating and extrapolating results and in shortening research by eliminating unnecessary analyses.

This silver jubilee year of the Soil Bureau has been fittingly marked by a decision to build permanent headquarters for the Bureau at the Taita Experimental Station near Wellington. Here experiments are being undertaken as fundamental soil investigations, not as studies arising primarily from the immediate needs of agriculture and forestry.

I. J. POHLEN,

Forthcoming International Congresses of Allied Sciences	Prochain Congrès Inter- nationaux de Sciences Connexes	Zukünftige Internationale Kongresse von Verwandten Wissenschaften
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DATE	PLACE	MEETING, SPONSOR AND SUBJECT	QUERIES TO ADDRESS
1956 Nov. 19-24	Palmerston, New Zealand	7th International Grassland Congress. Pasture plant breeding; pasture establishment and management in varying environments; pasture utilization as it affects both plants and animals.	Mr S. H. Saxby, Organizing Secretary, 7th International Grassland Congress, G.P.O. Box 2298, Wellington, New Zealand
1957 undecided	United States	3rd International Congress on Irrigation and Drainage. International Commission on Irrigation.	Mr Walter E. Blomgren, Chairman of U.S. National Committee of International Commission, U.S. Bureau of Reclamation, Room 53, Denver Federal Center, Denver, Colorado; or the Secretary General, International Commission on Irrigation and Drainage, 1 Old Mill Road, New Delhi 1, India.

LETTERS TO THE EDITOR — LETTRES A L'ÉDITEUR —
ZUSCHRIFTEN AN DEN HERAUSGEBER.

A l'éditeur du Bulletin de la
Société Internationale de la Science du Sol,
63 Mauritskade, Amsterdam - Holland.

Interprétation du Profil de Monzi (Mayumbe)
Congo Belge

Cher Monsieur,

J'ai l'honneur de vous adresser ci-dessous une note sur le Profil de Monzi (Mayumbe) qui me semble d'être très intéressante pour tous les membres du 5me Congrès International de la Science du Sol qui ont pu examiner le profil. Il présente un exemple de néoformation des filons de quartz dans la zone altérée de surface. Mes études actuelles sur la néoformation du quartz, soit sous forme de filons, soit sous forme dispersée dans le sol, font découvrir que le phénomène est très banal sous conditions quartoriales et tropicales humides.

Des profils analogues existent dans le Massif Kibalien de Kilo (Haut-Ituri), une disposition analogue des filons de quartz dans la stone-line existe sur les Plaines Tectoniques arides du Lac Albert à Mahagi.

Le profil de Monzi est sommairement caractérisé dans la Communication du Congrès (voir excursion au Mayumbe); il comprend:

- 1) un recouvrement meuble de surface
- 2) une stone-line
- 3) une formation de base en voie d'altération

Le recouvrement meuble de surface et la formation de base en voie d'altération:

Dans le recouvrement meuble nous sommes en présence de sols très argileux à macrostructure en „blocs”. Ce sol est à un stade très juvénile, que nous désignons sous le vocable de „stade scoriacé”; ce stade scoriacé serait l'équivalent du „Lehm” de Vageler ou de Kubiena.

Dans la formation de base, le sol est plus juvénile encore, il en est au „stade rocheux-scoriacé” avec nombreux vestiges rocheux, dont certains sont hématésés.

Le sol de recouvrement au-dessus de la stone-line n'est pas un sol colluvionné, mais l'ensemble de la masse de ce sol a subi une „solifluction”. Cette solifluction est due à une masse très argileuse, jeune, qui se gorge d'eau en saison des pluies. Cette masse est d'autant plus plastique que le sol est plus jeune (Lehm). C'est ainsi qu'elle se déplace par rapport à la masse sous-jacente moins imbibée d'eau et plus rocheuse.

La Stone-line:

Cette stone-line est atypique et est analogue aux filons de quartz formés dans les bancs de micaschistes dressés des Plaines tectoniques du Lac Albert à Mahagi. Les bancs rocheux de Monzi sont également dressés; et cette inclinaison s'observe tant dans la zone de la formation de base que dans la stone-line.

Tout comme sur les Plaines du Lac Albert à Mahagi, nous voyons que la silice s'est infiltrée dans les interstices entre les feuillettes de la roche. Ces interstices présentaient des épontes plus ou moins altérées, qui ont été remplacées par du quartz. Cette infiltration de silice, formant filons, ne descend qu'à faible profondeur (0.70 m.), ce qui est probablement dû au manque d'humidité capable d'être absorbée en grande quantité par la masse très argileuse de recouvrement, qui a soliflué. Dans le cas des filons formés dans des bancs rocheux dressés des Plaines du Lac Albert à Mahagi, et généralement dans tous les cas de stone-lines avec réseau filonien, le phénomène s'arrête à hauteur de la roche saine.

Nous considérons donc ce qui est dénommée la „stone-line” à Monzi comme étant formée par du quartz de néoformation.

Les stone-lines quartzzeuses et leur réseau de filons quartzzeux de néoformation sont la caractéristique des profils pédologiques développés sous climats tropicaux humides ou arides. Cette néoformation peut se présenter:

— Dans la „stone-line proprement dite” formée en corolaire d'une pédimentation. Cette stone-line caractérise les sols dérivant de roches cristallines peu altérables dans le N.E. du Congo Belge. Ces „profils de pédimentation” doivent exister au Mayumbe.

— Dans le réseau filonien, soit qu'il s'anastomose avec la „stone-line proprement dite” dans le cas de roches cristallines peu altérables, soit qu'il n'existe pas de „stone-line proprement dite” de pédimentation dans le cas de roches facilement altérables. Ce réseau présente des filons souvent discontinus, généralement inclinés ou subhorizontaux; ces filons se sont formés dans les fissures de glissement de la masse altérée. Sur les Plaines du Lac Albert à Mahagi, ces filons suivent l'inclinaison des bancs rocheux grousés.

Dans le cas des Plaines arides de Lac Albert à Mahagi les bancs ou feuillets rocheux dressés sont plus altérés vers la surface, où ils s'incurvent ainsique les filons inclus dans leur masse. Cette incurvation se réalise dans le sens de l'inclinaison des bancs et très rarement dans le sens de la pente actuelle du terrain; dans ce dernier cas on observe une torsion des filons. Ces filons ainsi tordus peuvent être massifs, ce qui indiquerait qu'ils se sont formés après la torsion des bancs ou feuillets de roches; ils peuvent être discontinus.

A Monzi, on observe un phénomène analogue à ce qui a été étudié sur les Plaines tectoniques arides du Lac Albert à Mahagi, où toutefois les filons affleurent en surface. Les bancs rocheux dressés, moins altérés que la masse solifluée sujacente se sont froissés partiellement sous l'effet de la „solifluction” ouvrant ainsi des interstices entre ces bancs et feuillets rocheux; les épontes de ces interstices sont ainsi exposés à une altération relative. Ils ont subi et subissent encore actuellement une diagenèse quartzeuse suite aux apports siliceux par les eaux souterraines. C'est ainsi que se sont formés les bribes de filons dressés dans ce qui a été appelée la „stone-line” à Monzi. Si le banc rocheux est incurvé dans la zone du plafond de l'horizon suite à l'altération et à la solifluction de la masse sujacente, le filon s'incurve de même. Ce filon peut être massif ou discontinu. Quelques rares filons sont couchés, les bancs rocheux suite à la „solifluction” se sont alors couchés. Quelques filons ont été fauchés par le cisaillement réalisé par la masse solifluée sujacente.

Le seul profil de Monzi ne suffit évidemment pas pour orienter une prospection. Nous ignorons l'éventualité de l'existence de lambaux de vieilles surfaces dans le paysage de Monzi, à sols latérisés „astructuraux” ou „en évolution astructurale”. Il faudrait également rechercher les profils rocheux originels sans „stone-line” qui doivent probablement exister encore dans le paysage (Massifs résiduels). Il est probable que la masse de quartz de la stone-line peut être de beaucoup plus importante que celle observée à Monzi. Une stone-line à éléments quartzeux trop denses peut constituer une veine de drainage importante dans ces sols très argileux, qui ont déjà un grand besoin en eaux. Certaines pentes peuvent être décapées et présenter un amas de quartz en surface, qui empêche la formation d'un couvert forestier et ne permet que le développement d'une savane. Ces sols doivent être le plus souvent impropres à la culture. Sous climat tropical plus aride que celui de Monzi, il est à prévoir que les filons quartzeux envahissent tout le profil jusqu'en surface.

Mahagi, le 16 octobre 1954

A. DE CRAENE

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The Editor,

Bulletin of the International Society of Soil Science.

**Royal Tropical Institute,
63, Mauritskade, Amsterdam - Holland.**

Dear Sir,

I have recently received my copy of the proceedings of the Congress at Léopoldville, to which I contributed paper V. 41. The report of the discussion (vol. IV p. 488) calls urgently for further comment. It is of course possible that the reporter in the French language did not completely understand Dr. Stephens. But whether or not Dr. Stephens made the claim of seniority among Australian soil workers which is attributed to him, the following facts should be put on record.

A committee on classification was elected by the meeting at the end of a fully-attended Australian soil conference in Adelaide in June 1953; the members of the conference agreed that classification had been inadequately discussed at the conference, and that differences could be thrashed out more successfully in a small committee than at a large meeting. The members of the committee were: L. H. J. Teakle, Professor of Agriculture in the University of Queensland; R. G. Downes, one of the three members of the Soil Conservation Authority of Victoria; B. E. Butler, now Regional Officer for the Commonwealth Scientific and Industrial Research Organization (C.S.I.R.O.) at Canberra; C. G. Stephens, head of Section of Soil Survey, C.I.S.R.O. Soils Division; and G. W. Leeper, Associate Professor in Agricultural Chemistry in The University of Melbourne. This committee met at intervals during the next twelve months and issued a statement of its principles. This was circulated to Australian colleagues, and after their comments had been received it was modified and expanded and the new statement was also circulated. Both these statements were signed by all members of the committee, except for Professor Teakle who had left for America early in the year.

Dr. Stephens signed both of them. His reported statement that the committee was not unanimous is not true. In fact, the committee, again including Dr. Stephens, unanimously asked me to present its conclusions to the Léopoldville meeting, and after the first three pages, which are mine, (to the bottom of p. 220) the rest of the article is the committee's. The work is that of the committee and not mine personally; I am sure that I would not have arrived at such a result by myself, and I contributed less to the result than did other members. Here again the statement, attributed to Dr. Stephens, that the committee was centred on my own ideas, is not correct.

Finally, whatever may have been Dr. Stephens' opinions at the time of the Léopoldville meeting, he did not say a word in disagreement with the committee's intentions or principles during all the committee's meetings.

Yours faithfully,
G. W. LEEPER
Associate Professor in
Agricultural Chemistry,
University of Melbourne
CARLTON, N. 3 (Vic.) Australia

August 5th, 1955

**The Editor,
International Society of Soil Science,
Royal Tropical Institute,
63 Mauritskade, Amsterdam - Netherlands.**

Dear Sir,

Some time prior to Professor Leeper writing to you I received a letter of complaint from him about my part of the recorded discussion on his paper at Léopoldville. To it I replied that a translation of the French record would need qualification and expansion to be a proper account of what I said. My words at the Congress are recorded below:

"In response to Dr. Charter: 'The committee was elected by a group of Australian pedologists to consider several schemes of soil classification including that presented by Professor Leeper. The participants have not been unanimous about all the ideas put before it and compromises have been necessary for some progress to be made. I would not think that the committee was an official body: it was formed as an experiment to try and resolve differences in approach to soil classification.'

In reply to Dr. van der Merwe: 'No: there has not yet been time: the scheme was only issued recently.'

In reply to a number of comments and questions which expressed surprise, in view of the nature of my own work, that I had allowed myself to be a member of such a committee issuing such a statement: 'I have no great confidence in this system of classification but in view of my situation as Head of the Soil Survey and Pedology Section, a research body, I do not ignore ideas from any source nor do I expect my staff to do so. For this reason also I allowed myself to be appointed as a member of the committee.'

I voiced my opposition and a warning at the time the committee was formed in Adelaide that it could depart from its intended deliberative function of comparing classifications and form itself into a working party helping Professor Leeper build a classification according to his ideas. This is, as I interpret it, what happened and I became involved. At its meetings the committee paid little attention to its deliberative function. Mr. Butler another member of the committee, in March this year, also stated that the committee unwisely acted in such a manner.

Confusion was inevitable about the status of a letter and mimeographed reports on a fractional part of Leeper's classification circulated for criticism. I signed both of these believing they were purely interim documents. Very recently Mr. Butler by correspondence had a deliberative report from the committee prepared.

The degree of unanimity mentioned in the Congress discussion refers for example, to differences of opinion about the depth to which profiles should be considered.

The committee was elected without reference to all Heads of State and Federal Departments which sent delegates to the Adelaide conference. That I feel sure precludes it being recognized as an official body.

At its last meeting before the Congress Professor Leeper informed the committee that he desired to prepare a paper and he was encouraged to do so. We were anxious to see what sort of a reception it would get. Since it appeared under his own name, includes material additional to that derived from the interim report, was prepared, so far as I know, solely by himself and deals with his own approach to classification I am reluctant to agree that it is entirely a committee responsibility. It is not mine by choice for I have repeatedly voiced my opposition to such methods of classification.

The paper was presented not by me a committee member but by Professor Leeper's own choice, Mr. G. A. Stewart, who was not a member of the committee. To me this is significant.

It seems that, due to misunderstandings between us about the nature of the work of the committee, and due to my too willing participation in working party activities Professor Leeper mistook my co-operation to mean that I was a convert to his system of classification. That was not intended and I wish to express my deep regrets for any misunderstandings I have caused.

August 29th, 1955.

Yours faithfully,
C. G. STEPHENS.
C.S.I.R.O. Division of Soils
ADELAIDE, Australia.

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