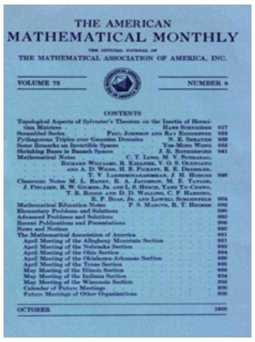

The American Mathematical Monthly

ISSN: 0002-9890 (Print) 1930-0972 (Online) Journal homepage: https://maa.tandfonline.com/loi/uamm20

May Meeting of the Indiana Section

Paul Mielke (Secretary)

local trees as partially ordered topological spaces having certain natural restrictions. The characterizations are viewed as descriptions of the inherent order properties possessed by trees and by local trees.

5. *A class of linear sequence spaces*, by Sister M. Catharina Bereiter, Siena Heights College.

The linear space $L(S)$ is defined by requiring that all subsequences with index sequence in S form absolutely convergent series. If S covers the natural numbers, the supremum of these sums forms a norm in the space $B(S)$ of sequences for which it is finite, and $B(S)$ is a Banach Space. Under easily satisfied conditions $L(S)$ and $B(S)$ differ from spaces such as (l_1) and (m). For certain S, "defined by a counting function Ω," $B(S)$ equals $L(S)$ and is separable, but not reflexive. The dual space can be given by sequences determined directly from Ω.

6. *A mnemonic simplification in linear algebra*, by Zamir Bavel, Southern Illinois University.

Let U and V be finite dimensional vector spaces with D and D' ordered bases for U, R and R' ordered bases for V, $\alpha \in U$, and $T: U \to V$ a linear transformation. Denote by $[\alpha]_D$ the *coordinate matrix of* α *relative to* D; by ${}^R[T]^D$ the *matrix representing* T *relative to* D *and* R; and by $P(D \to D')$ the *transition matrix from* D *to* D'. Also regard $D \to D'$ as instructions for substitution: To perform the *forward* substitution $D \to D'$, replace D' by D, and to perform the *backward* substitution $D \to D'$, replace D by D'. In either case, the substitution "consumes" the transition matrix. RULE: (a) A transition matrix adjacent to ${}^R[T]^D$ appears on the domain (alt. range) side of ${}^R[T]^D$ when the change-of-basis occurs in the domain (alt. range) space. (b) Perform a *forward* substitution in what *follows* a transition matrix; perform a *backward* substitution in what is *behind* a transition matrix. It is now easy to remember, prove, and "invent" such theorems as

$$P(D \to C)^C[T]^A P(A \to E)P(E \to B)[\alpha]_B = {}^D[T]^B[\alpha]_B = [T(\alpha)]_D,$$

since it is impossible to misstate them.

7. *A Problem in Elementary Set Theory*, (Hour Address), by Philip Dwinger, University of Illinois, Chicago Circle.

ARNOLD WENDT, *Secretary-Treasurer*

MAY MEETING OF THE INDIANA SECTION

The Indiana Section of the MAA met on Saturday, May 14, 1966, at Indiana State University, Terre Haute, in joint session with the Indiana Council of Teachers of Mathematics. Approximately 200 persons attended, of whom 70 were members of the Association. Chairman George Springer of Indiana University presided, and President A. C. Rankin of Indiana State University welcomed the participants.

At its business meeting, the Section elected the following officers for the year 1966–67: Robert Zink, Purdue University, Chairman; Kenneth Sidebottom, Indiana Central College, Vice-Chairman; George Pedrick, Purdue University, Secretary-Treasurer. The Section also voted to give special recognition annually to the top Indiana team and individual in the Putnam Competition and directed its Executive Committee to determine a tangible expression of this recognition. A communication from the Mathematics Department of Indiana University was read in which it was announced that the department "each year reserves one of its regular stipends for graduate study for the participant in the Putnam Competition who ranks highest among the contestants in the State of Indiana."

The program consisted of three hour lectures as follows:

1. *Rotations, angles and trigonometry*, by R. J. Troyer, Dartmouth College.

2. *Puzzles, platonism and extraversion*, by E. E. Moise, Harvard University.

3. *Continued fractions in stability theory*, by J. S. Frame, Michigan State University.

PAUL MIELKE, *Secretary*