

The geometric statement of this is that *taking any point  $x$  and making*

*xbz directly similar to cda,*  
*zay . . . . . bdc,*  
*ycx . . . . . adb.*

*then is*

Mechanical means, such as Sylvester's Plagiograph, for inducing a variable triangle to retain its shape are described in Dyck's *Katalog mathematischer Modelle* (Wolf, München, 1892). It is sufficient to take two such plagiographs,  $xbz$ ,  $zay$ , and connect them at  $z$  while fixing the double points  $b$ ,  $a$  in order to have three points  $x$ ,  $y$ ,  $z$  always describing similar figures; but the above work shows the condition that three plagiographs  $xbz$ ,  $zay$ ,  $ycx$ , connected at  $x$ ,  $y$ ,  $z$  and fixed at  $a$ ,  $b$ ,  $c$ , can effect the same symmetrically.

---

#### NOTES.

A REGULAR meeting of the AMERICAN MATHEMATICAL SOCIETY was held in New York, Saturday afternoon, May 25, at three o'clock, the president, Dr. Hill, in the chair. There were thirteen members present. On the recommendation of the council, Professor Clarke Benedict Williams, Kalamazoo College, Kalamazoo, Mich., was elected to membership. One nomination for membership was received. The following papers were presented:

(1) "On the limaçons which possess Poncelet polygons," by Professor F. MORLEY.

(2) "About biquadrate numbers whose sum is a biquadrate," by Dr. ARTEMAS MARTIN.

(3) "An essay on the calculus," by Professor W. H. ECHOLS.

THE Department of Mechanics of Columbia College will give the following graduate courses during the year 1895-6: (1) Theory of the potential function, and (2) Mathematical theory of elasticity, each two hours per week throughout the year, by Professor R. S. Woodward; (3) Electromagnetic theory of light, three hours per week of first term, and (4) either Advanced thermodynamics, or Theory of sound (based on Lord Rayleigh's treatise), two hours per week throughout the year, by Professor Pupin; (5) Theoretical mechanics (based on Ziwet's Theoretical Mechanics), two hours per week throughout the year, by Mr. J. C. Pfister.

DR. FABIAN FRANKLIN has resigned his professorship at the Johns Hopkins University in order to assume editorial duties on the *Baltimore News*. This is a heavy loss to the cause of pure mathematics; but we cherish the hope that the

list of Dr. Franklin's singularly clear and original contributions to this subject is by no means finally closed.

THE following are the mathematical courses for the current summer semester at Göttingen:—Professor Schering: Abel's and Riemann's functions; Seminarium;—Professor Voigt: Optics; Chapters from the theory of electricity;—Professor Klein: Theory of numbers, II.; Seminarium;—Professor Schur: Theoretical astronomy including perturbations, II.; Professor Nernst: Kinetic theory of gases and fluids;—Professor Hilbert: Elliptic functions; Theory of determinants; Seminarium;—Professor Schoenflies: Mechanics; Seminarium;—Dr. Burkhardt: Differential calculus, with exercises;—Dr. Pockels: Electrical oscillations, with demonstrations;—Dr. Ritter: Analytical geometry; Exercises in analytical geometry; Geometry;—Dr. Bohlmann: Chapters from Lie's theory of continuous groups.

## NEW PUBLICATIONS.

### I. HIGHER MATHEMATICS.

- CARPENTIER-WILDERWANCK (P. DE). *Theorie en toepassing van de karakteristieke functie van Hamilton.* Leiden, 1894. 8vo. 8 and 68 pp. Mk. 2.00
- CAUCHY (A.). *Œuvres complètes, publiées sous la direction scientifique de l'Académie des sciences. 2e série. Tome X: Résumé analytiques de Turin; Nouveaux exercices de Prague.* Paris, Gauthier-Villars, 1895. 4to. 464 pp. Fr. 20.00
- DEMOULIN (A.). *Mémoire sur l'application d'une méthode vectorielle à l'étude des divers systèmes de droites.* Bruxelles, 1895. 8vo. 118 pp. Fr. 4.00
- EBERHARD (V.). *Ueber die Grundlagen und Ziele der Raumlehre. Abdruck aus "Grundgebilde der Geometrie."* Leipzig, Teubner, 1895. 8vo. 29 pp. Mk. 1.60
- HELMHOLTZ (H. VON). See LOBATCHEWSKY (N.).
- KÖNIGS (G.). *La géométrie réglée et ses applications: coordonnées; systèmes linéaires; propriétés infinitésimales du premier ordre.* Paris, Hermann, 1895. 4to. 148 pp. Fr. 5.00
- LOBATCHEWSKY (N.). *Recherches géométriques sur la théorie des parallèles, suivies d'un extrait de la correspondance entre Gauss et Schumacher; traduit de l'allemand par J. Hoüel.—HELMHOLTZ (H. VON). Sur les faits qui servent de base à la géométrie; traduit de l'allemand. (Réimpressions.)* Paris, Hermann, 1895. 8vo. Fr. 5.00
- LÜBSEN (H. B.). *Ausführliches Lehrbuch der Analysis, zum Selbstunterricht mit Rücksicht auf die Zwecke des praktischen Lebens bearbeitet. 9te Auflage.* Leipzig, Brandstetter, 1895. 8vo. 4 and 203 pp. Mk. 3.60
- MACAULAY (F. S.). *Geometrical conics.* London and New York: Macmillan, 1895. 12mo. 260 pp. Cloth. \$1.25