Kunihiko Kodaira: man and mathematics. Edited by the Mathematical Society of Japan.
(Japanese) | Zbl 1398.32001 |
Tokyo: Sugakushobo (ISBN 978-4-903342-81-8). 357 p. (2015).

This is an interesting book on Kunihiko Kodaira, the first Japanese Fields prize laureate in the honorable tradition of Teiji Takagi and Kiyoshi Oka since the Meiji Restoration. The book consists of four parts with a preface by Kenji Ueno.

In the first part Kodaira speaks about mathematics. It consists of seventeen articles.

1. The impression of mathematics

2. Reading books on mathematics while making notes

3. Restrospects

4. Delusions of a certain mathematician

5. Let's emancipate education in mathematics from the curse of modernization.

6. Science, technology and the progress of humankind

7. Marvels of mathematics

8. Psychology of discovery and planar geometry

9. Mathematics has become more and more difficult.

10. Reminiscences of Princeton

11. The mystery of complex numbers

12. Primary and secondary education in mathematics forgetful of principles-why and for whom to hurry up?

13. Professor Hermann Weyl

14. Professor Donald Clayton Spencer

15. Mathematics is mysterious!

16. Start learning in mathematics

17. Old days of the International Congress of Mathematicians

The first article appeared for the first time in the Japanese book [An invitation to mathematics. Tokyo: Chikuma Shobo (1969)] and then was reproduced in the Japanese journal "Mathematical Seminar" in December 1997. The second article appeared for the first time in the Japanese journal "Mathematical Seminar" in August 1970. The third article appeared for the first time in the Japanese journal "Science" in May 1975. The fourth article appeared for the first time in the Japanese journal "Mathematical Sciences" in June 1975. The fifth article appeared for the first time in the Japanese journal "Mathematical Seminar" in December 1975. The sixth article appeared for the first time in the Japanese journal "Quarterly Modern Economy" in April 1976. The seventh article appeared for the first time in the Japanese journal "Mathematical Seminar" in November 1976. The eighth article appeared for the first time in the Japanese journal "Mathematical Seminar" in March 1979. The ninth article appeared for the first time in the Japanese journal "Mathematical Seminar" in May 1981. The tenth article appeared for the first time in the Japanese journal "Mathematical Seminar" in August 1981. The eleventh article appeared for the first time in the Japanese journal "Mathematical Seminar" in July 1983. The twelfth article appeared for the first time in the Japanese journal "Mathematical Seminar" in January 1983. The thirteenth article appeared for the first time in the Japanese journal "Science" in January 1984. The fourteenth article appeared for the first time in the Japanese journal "Mathematical Seminar" in September 1985. The fifteenth article appeared for the first time in the Japanese journal "Mathematical Seminar" in April 1987. The sixteenth article appeared for the first time in the Japanese jounal "Mathematical Seminar" in October 1988. The seventeenth article is a record of a lecture by Kodaira in a high school in Niigata prefecture on 2 June of 1988, which was realized thanks to efforts of the alumnus Koji Shiga.

In the second part Kodaira discusses with other Japanese mathematicians. This part consists of three articles:

1. Chatting of classmates; Kodaira returns to his homeland for the first time in 17 years.

2. Professor Kodaira discusses with young Japanese mathematicians.

3. Education in elementary mathematics should be free and generous.

The first article, having appeared for the first time in the Japanese journal "Mathematical Seminar" in January 1967, is a discussion by Kodaira, Yukiyoshi Kawada and Shigeru Furuya. The second article, having appeared for the first time in the Japanese journal "Mathematical Seminar" in January 1969, is a discussion by Kodaira, Soichi Kawai, Tatsuo Suwa and Shigeru Iitaka. The third article, having appeared for the first time in the Japanese journal "Mathematical Seminar" in June 1974, is a discussion by Kodaira, Shoji Maehara and Hiroshi Fujita.

In the third part famous mathematicians talk their memories on Kodaira. This part consists of nine articles.

1. The honored father of the theory of manifolds

2. Kunihiko Kodaira as a student in physics of the Tokyo Imperial University

3. A sublimity is gone

4. Personal Reminiscences of Professor Kodaira

5. Obituary, Kunihiko Kodaira

6. Kunihiko Kodaira:Mathematician, Friend, and Teacher

7. Memories of Professor Kodaira

8. Reminiscences of Professor Kodaira

9. What we have learned from Professor Kodaira

The first four articles appeared for the first time in the Japanese journal "Mathematical Seminar" in December 1997. The first article was written by Shigeru Iitaka. The second article was written by Koreo Kinoshita (a physicist). Kodaira entered the department of physics at the Tokyo Imperial University after finishing his study at the department of mathematics of the same university. We can find Tosio Kato among his classmates at the department of physics. The third article was written by Heisuke Hironaka The fourth article was written by Walter L. jun. Baily.

The last five articles appeared for the first time in Japanese in the Japanese journal "Pleasures of Mathematics" in August 2000. The fifth article is a reproduction of [*M. F. Atiyah*, Bull. Lond. Math. Soc. 31, No. 4, 489–493 (1999; Zbl 0928.01020)] translated into Japanese by Noriko Tanaka. The sixth article is a reproduction of [*F. Hirzebruch*, Notices Am. Math. Soc. 45, No. 11, 1456–1462 (1998; Zbl 0908.01029)] translated into Japanese by Noriko Tanaka. The seventh article was written by Junichi Igusa. The eighth article was written by Tetsuji Shioda. The ninth article was a discussion by Shigeru Iitaka, Yoichi Miyaoka and Masahiko Fujiwara.

The fourth part is concerned with Kodaira's mathematics. It consists of seven articles.

1. The mathematics of Professor Kodaira

2. The story of Fields prizes – Kunihiko Kodaira

3. The theory of complex manifolds or transcendal methods in Kodaira mathematics

4. Moduli and deformation theory

5. The fertility of elliptic surfaces

6. New surfaces found out by Kodaira and afterwards – the developments of non-algebraic surfaces

7. The classification of surfaces and its higher-dimensional generalizations

The first article was written by Hajime Tsuji. The second article, having appeared for the first time in the Japanese journal "Mathematical Seminar" in June 1967, was written by Shokichi Iyanaga. The third and fourth articles appeared for the first time in the Japanese journal "Pleasures of Mathematics" in August 2000. The third article was written by Kenji Fukaya. The fourth article was written by Iku Nakamura.

The last three articles appeared for the first time in a Japanese journal "Mathematical Seminar" in December 1997. The fifth article together with a short column on the origin of the name "K3 surfaces"

was written by Yukihiko Namikawa. The sixth article was written by Masahide Kato. The seventh article was written by Yoichi Miyaoka.

<div align="right">Reviewer: Hirokazu Nishimura (Tsukuba)</div>

MSC:

32-03	Historical (several complex variables and analytic spaces)
01A70	Biographies, obituaries, personalia, bibliographies
01A60	Mathematics in the 20th century

Keywords:

Kunihiko Kodaira

Biographic references:

Kodaira, Kunihiko