

Year	Schools	Students
1930	45,803	12,549,820
1933	45,610	12,257,660

Classified according to types, the number of schools in Japan proper in the year 1933, with the number of students enrolled, was as follows:

	Schools	Students
Elementary Schools	25,697	10,714,196
Middle Schools	558	329,459
Girls' High Schools	963	361,739
Business Schools	1,024	298,833
Business Continuation Schools	15,091	1,270,874
Higher Schools	32	20,589
Universities	47	70,162
Colleges	116	67,341
Higher Trade and Industrial Colleges	54	22,546
Normal Schools	103	36,867
Higher Normal Schools	2	1,790
Higher Normal Schools for Women	2	839
Special Institutes for the Training of Teachers	4	154
Institutes for the Training of Business School Teachers	4	371
Institutes for the Training of Business Continuation School Teachers	42	1,039
Schools for the Blind	75	4,613
Schools for the Deaf and Dumb	59	4,376
Miscellaneous Schools	1917	203,123
Total	45,793	13,408,971
Kindergartens	1,708	120,001
Young Mens' Training Institutes	15,546	836,729

The figures for schools refer to those existing on March 31, while the figures for students refer to those on March 1.

Elementary Education

Elementary education in Japan is compulsory and has attained to its present high level of excellence through many improvements since the promulgation of the School Ordinance in 1872. In the Imperial Ordinance relating to Elementary Schools the object of elementary education is defined as follows:

"Elementary schools are design-

ed to give children the rudiments of moral education specially adapted to make of them good members of the community, together with such general knowledge and skill as are necessary for the practical duties of life, due attention being paid to their bodily development."

According to the system of compulsory education all children from 6 to 14 years of age are called school-age children, and those who exercise parental authority over them, or their legal guardians, must send them either to the ordinary elementary schools established by the cities, towns or villages until they complete the required course of study, or to schools established by the Government, prefectures or by private individuals, recognized as equal to the ordinary ones above mentioned. The law is not enforced when a child is unfit for study owing to physical or mental deficiency or cannot be sent to school by reason of extreme poverty. There is a provision which requires the employers of school-age children to see that the work imposed does not interfere with their going to school.

The responsibility of establishing ordinary elementary schools is placed upon cities, towns and villages, and they are making efforts to maintain schools even in the dire depression of the past few years. At the same time, however, special provisions permit the State Treasury to bear part of the expense, and the diffusion of elementary school education in Japan proper is all but ideal, the number of the school-age children attending schools maintaining the rate of 99% for the past five years.

The full figures are as follows:

These figures represent the condition existing on March 31 of the respective years.

Year	School-age Children	Children Attending Schools	Children not Attending Schools	Percentage of Children Attending Schools
1933	10,754,962	10,708,930	46,032	99.57
1932	10,892,794	10,344,642	48,152	99.54
1931	10,106,941	10,056,530	49,411	99.51
1930	9,823,785	9,822,847	50,938	99.48
1929	9,717,037	9,663,558	53,471	99.45

Elementary schools are divided into two grades, namely, ordinary or lower and higher. The former are for the beginners and their course extends over six years. The latter are for those who have completed the lower course, and their courses are of two or three years' duration. The subjects taught are morals, Japanese language, arithmetic, Japanese history, geography, science, drawing, singing, sewing (for girls only) and gymnastics. In the higher courses, either one or more subjects out of handicraft, agriculture, industry, commerce and domestic science (for girls only), are added, and if local circumstances make it advisable, handicraft in ordinary elementary schools and foreign languages and other useful subjects in higher elementary schools may also be taught.

An elementary school may comprise both the ordinary and the high-

er elementary school courses and may equip itself with a supplementary course of not more than two years.

Under the present system of compulsory education the father's responsibility ends when his child has graduated from the lower elementary school. But the ordinary elementary education of children is not sufficient for the existing conditions of society, and many cities, towns and villages establish higher elementary schools either independently or in connection with ordinary ones. For the same reason, many business continuation schools are established to give elementary school graduates such education as may be of use in various trades.

The following table will give a general idea of the conditions of elementary schools as they were in 1933.

Schools	Governmental	Public	Private	Total
Ordinary Schools	—	7,022	75	7,097
Ordinary and Higher Schools	4	18,418	20	18,442
Higher Schools	—	157	1	158
Total	4	25,597	96	25,697
Classes				
Ordinary and supplementary	55	182,137	615	182,807
Higher and supplementary	7	32,458	34	32,499
Total	62	214,595	649	215,306
Teachers	95	237,602	818	238,515
Pupils	2,335	10,685,648	26,213	10,714,196
Graduates	485	2,043,529	4,374	2,048,388
Entrants	428	2,515,717	5,583	2,521,728
Daily Attendance				
Ordinary	2,047	8,990,063	24,120	9,016,230
Higher	200	1,363,249	921	1,364,370
Total	2,247	10,353,312	25,041	10,380,600
Percentage of Daily Attendance				
Ordinary	95.92	96.83	95.79	96.83
Higher	97.56	96.56	96.74	96.56
Average	96.07	96.80	95.83	96.79

Teachers and Salaries There are more male teachers than female in the Japanese elementary schools, and they are classified according to their education and special abilities, as (1) elementary school teachers (2) lower elementary school teach-

ers, (3) teachers on special subjects, (4) assistant teachers, and (5) substitute teachers. The teachers belonging to the first two classes are regular teachers properly qualified for the elementary education of children.

ELEMENTARY SCHOOL TEACHERS CLASSIFIED

(March 1, 1933)

Ordinary Elementary Schools	Male	Female	Total
Regular teachers	112,074	53,329	165,403
Special teachers	3,667	6,430	10,097
Assistant teachers	3,951	2,144	6,095
Substitute teachers	8,459	8,837	17,296
Total	128,151	70,740	198,891
Higher Elementary Schools			
Regular teachers	32,913	2,427	35,340
Special teachers	1,747	1,231	2,978
Assistant teachers	49	6	55
Substitute teachers	914	337	1,251
Total	35,623	4,001	39,624
Grand total	163,774	74,741	238,515

TEACHER'S MONTHLY SALARY

(Public Schools)

(March 1, 1933)

Ordinary Elementary School	(1)	(2)	(3)	(4)	(5)
Maximum, Male	¥215	125	185	60	130
" Female	125	90	105	60	110
Minimum, Male	10	10	1	15	1
" Female	12	8	1	7	1
Average					
Male	68	51	52	39	38
Female	49	42	41	34	27
Average	62	48	45	37	32
Higher Elementary School	(1)	(3)	(4)	(5)	
Maximum, Male	¥215	148	65	145	
" Female	110	105	45	65	
Minimum, Male	12	1	30	1	
" Female	20	1	28	1	
Average					
Male	71	55	42	43	
Female	54	45	33	38	
Average	69	51	41	42	

Secondary Education

For the secondary grades there are middle schools for boys, girls' high schools, business schools and business continuation schools.

Middle Schools The course of the middle school extends over five

years, and its object is to give boys such a higher general education as will fit them to be useful members of society after their graduation. The subjects taught are morals, civics, the Japanese language and Chinese classics, history, both Japanese and foreign, geography, a for-

ign language (either one of English, German, French or Chinese), mathematics, science, technical studies, drawing, music, practical work (carpentering, gardening, etc.) and gymnastics.

From the fourth year upwards, the subjects are selected and arranged into two groups, the pupils making choice between the two. Under special circumstances, however, the Minister of Education may authorize a school in which either of the two groups may be dispensed with. This dual system of curriculum is of benefit on the one hand to the pupils who wish to take up employment immediately upon graduation, and on the other to those who wish to advance to higher-grade schools.

To the regular course a supplementary course of one year or less may be added, and, if local circumstances require, a preparatory course of two years may also be provided. A boy who desires to enter a middle school must complete either its preparatory course or the full course of an ordinary elementary school.

Those who are twelve or more years of age and in possession of adequate scholastic attainments may be admitted upon examination. Those who have completed the fifth year (the course of the ordinary elementary school ends with the sixth year as mentioned above) of an ordinary elementary school and are physically well developed and have shown excellent scholarship are allowed to apply for the entrance examination, even though under twelve years of age; this is to give a chance to specially gifted boys.

The following are the figures for middle schools and their pupils on March 1 of each year:

Year	Schools	Pupils
1933	558	329,459
1932	558	336,186
1931	557	345,691
1930	555	348,584
1929	546	343,709

A general idea of the condition of the middle schools in 1932-1933 may be obtained by the following table of figures:

	Governmental	Public	Private	Total
Schools	2	435	121	558
Classes, regular course	25	6,390	1,310	7,725
Number of boys in one class	39.68	42.77	42.01	42.63
Teachers, licensed	57	9,639	2,099	11,795
" non-licensed	—	Female 4	Female 7	Female 11
Total	57	1,100	629	1,729
Pupils, regular course	992	Female 11	Female 3	Female 14
Preparatory	—	10,754	2,738	13,549
Pupils; Supplementary course	—	273,301	55,031	329,324
Total	992	50	54	104
Graduates, regular course	179	48,681	11,946	60,806
Preparatory	—	15	15	30
" Supplementary course	—	267	73	340
Total	179	48,948	12,034	61,161
Applicants, regular course	1,037	85,629	22,225	108,883
Preparatory	—	23	23	46
" Supplementary course	—	1,897	135	2,032
Total	1,037	87,517	22,384	110,938
Admitted, regular course	205	60,609	11,314	72,126
Preparatory	—	16	16	32

	Governmental	Public	Private	Total
Admitted, Supplementary Course	—	1,055	117	1,172
Total	205	61,662	11,447	73,314
Left school, regular course	46	21,624	7,635	29,305

Girls' High Schools The system of high schools for girls is made flexible to suit practical requirements. A girl who has completed elementary school or has equivalent scholastic attainments and is twelve years or more of age may be admitted to a girls' high school. The course of the girls' high school extends over four or five years, and those schools whose entrance requirement is the completion of the higher elementary school or the possession of the same or higher scholastic attainments are allowed to shorten their course to three years. There is another kind of girls' high school which is called Girls' Domestic High School, where domestic science is the main course of study, and its regular course extends over two to four years. Girls who wish to take only one part of the course are allowed to do so on application. A supplementary course of two years or less may be provided for the benefit of those who wish to continue their study after completing the regular course, and a post-graduate course or a higher course of two or three years for the purpose of giving higher education. In the cases of the higher course, higher qualifications are required of the teachers and its standard is brought up almost to that of the higher school for boys.

The subjects taught in a girls' high school are the same as those taught in the middle schools, but with the addition of domestic science and sewing, the required hours of study being from 28 to 29 a week. In the case of the Girls' Domestic High School, technical study is added and the hours for domestic sci-

ence and sewing are double those of the ordinary high school, the time allowed for other subjects being shortened, and foreign languages omitted altogether. Under special circumstances the foreign language, drawing and music may be omitted, and if local circumstances require, pedagogics, manual arts, technical studies and other useful subjects may be taught in addition to the normal curriculum. In such cases the total weekly hours may be increased to a little over 30. The curriculum of a domestic course of three years, the entrance requirement of which is the completion of the first year of the higher elementary school, is to be suitably drawn up on the basis of that of a domestic course of two years, the entrance requirement of which is the completion of the higher elementary school, and be submitted to the Minister of Education for approval.

The progress of female education is phenomenal in modern Japan and girls' high schools have taken very marked strides in recent years both in number and quality. At the end of March, 1932, there were 980 girls' high schools in Japan proper, many of them being provided with, or contemplating the provision of, a post-graduate course or a higher course.

The number of schools and girl students on March 1 of each year was as follows:

Year	Schools	Girls
1933	963	361,739
1932	980	362,625
1931	975	368,999
1930	970	367,726
1929	940	359,269

GIRLS' HIGH SCHOOLS, 1932—1933

	Governmental	Public	Private	Total
Schools:				
High School	2	556	223	781
Domestic H. S.	1	161	20	182
Total	3	717	243	963
Classes:				
Regular course	20	5,441	1,938	7,399
In a class, average	46.25	45.46	42.46	44.68
Post graduate	—	29	—	29
In a class, average	—	22.41	—	22.41
Domestic High School	4	610	119	733
In a class, average	46.75	34.64	36.68	35.04
Teachers, licensed:				
High School, regular course, male	14	4,918	1,567	6,499
female	34	3,782	1,796	5,612
Post graduate, male	—	61	—	61
female	—	9	—	9
Domestic High School, male	5	309	92	406
female	3	541	88	633
Teachers, unlicensed:				
High School, regular course, male	—	463	510	973
female	—	206	417	623
Post graduate, male	—	7	—	7
female	—	8	—	8
Domestic High School, male	—	110	38	148
female	—	70	41	111
Total, male	19	5,868	2,207	8,094
female	37	4,616	2,342	6,995
Total	56	10,484	4,549	15,089
Pupils:				
Regular course	925	247,360	82,285	330,570
Post graduate course	—	650	—	650
Higher course	132	723	484	1,339
Domestic H. School	187	21,133	4,365	25,685
Elective pupils	—	259	17	276
Supplementary course	15	2,749	455	3,219
Total	1,259	272,874	87,606	361,739
Graduates:				
Regular course	176	55,854	17,553	73,583
Post graduate course	—	274	—	274
Higher course	32	225	159	416
Domestic H. School	44	6,787	1,279	8,060
Elective pupils	—	207	5	212
Supplementary course	14	2,714	436	3,164
Total	266	66,011	19,432	85,709
Applicants:				
Regular course	1,120	91,415	40,759	133,294
Post graduate course	—	267	—	267
Higher course	104	459	381	944
Domestic H. School	168	8,105	1,366	9,639
Elective pupils	—	245	14	259
Supplementary course	17	3,149	613	3,779
Total	1,409	103,640	43,133	148,182
Admitted:				
Regular course	193	63,266	20,783	84,242
Post graduate course	—	254	—	254
Higher course	51	371	321	743
Domestic H. School	48	7,320	1,154	8,522
Elective pupils	—	245	10	255
Supplementary course	17	3,108	572	3,697
Total	309	74,564	22,840	97,713

Left school in the school year :	Governmental	Public	Private	Total
Regular course	21	12,205	6,457	18,683
Domestic H. School	5	1,578	338	1,921
Total	26	13,783	6,795	20,504

Business Schools Business schools of secondary grade are established for the purpose of giving young people the practical knowledge and skill necessary in various vocations, and much is left to the discretion of the founders as to the systems of schools in order to suit the special needs of different industries, trades and localities. The courses may extend from two to five years according to the nature of the school. A period of not longer than one year may be added to the maximum prescribed course. Further provisions are allowed to meet the needs of those who desire to take only a part of the curriculum, for those who, after completing the prescribed course, still desire to remain for further study, and for those who wish after completing the course of a middle school or girls' high school, to enter a business school with the object of receiving business education; and lastly for those who wish to receive instruc-

tion in a simple way for only a short period.

On March 1, 1933 there were 1,024 business schools. The figures for the years 1929-1933 are given below :

Year	Schools	Pupils
1929	1,024	298,893
1930	1,003	292,015
1931	975	288,651
1932	937	280,904
1933	911	257,041

Business schools are divided into two classes, A and B. Those schools which belong to A class admit boys and girls who have completed the course of the ordinary elementary school, while those which belong to B class admit those who have completed the course of the higher elementary school. And they are of six kinds, namely, Technical, Agricultural, Fisheries, Commercial, Navigation and Practical. Figures relating to these business schools in 1932-1933 are given below.

BUSINESS SCHOOLS (A)

	Schools	Teachers	Pupils	Graduates	Applicants	Admitted	Left school
Technical	93	2,265	33,553	6,892	19,594	9,698	1,958
Agricultural	236	2,766	47,583	14,049	19,727	16,401	2,995
Commercial	284	6,120	138,241	25,321	63,186	35,165	13,216
Navigation	11	164	2,659	587	925	757	217
Fisheries	12	141	1,917	380	670	522	168
Practical	186	2,356	37,035	14,570	19,864	16,134	2,252
Total	822	13,812	260,988	61,799	123,966	79,677	20,806

BUSINESS SCHOOLS (B)

	Schools	Teachers	Pupils	Graduates	Applicants	Admitted	Left school
Technical	29	313	5,262	1,623	5,046	2,471	570
Agricultural	98	795	16,812	5,684	7,096	6,447	1,069
Commercial	41	870	10,412	3,067	6,433	4,562	1,167
Navigation	1	11	61	61	119	119	98
Fisheries	1	1	34	—	20	20	10
Practical	32	308	5,324	2,906	3,776	3,415	392
Total	202	1,798	37,905	13,341	22,490	17,034	3,306

Of these schools, 13 technical, 14 agricultural, 133 commercial, and 126 practical schools were under private management.

According to the report of the Business Education Bureau, Ministry of Education, the number of business schools on April 20, 1934, was 1,025 and that of students 342,299; (a) 821 schools with 303,537 students, (b) 206 schools with 38,762 students. Of the total, 294 schools were established by private bodies or individuals, where students numbered 100,011.

Business Continuation Schools The object of these schools is to give to boys and girls engaged in vocations after graduation from the ordinary elementary school useful knowledge and skill relating to these vocations and at the same time to furnish education necessary in daily life. Their courses are technical, agricultural, commercial, navigation, fisheries and sewing; each school providing one or even all of these. The whole course is divided into two terms, the first extending over two years and the second over two or three years according to the nature of studies. The number of hours

taught in a year ranges between 200 and 420 in the first term, and 160 and 420 in the second, according to studies and the grade of the class. Those who have completed the ordinary elementary school or are up to that standard may be admitted to the first term, and those who have completed the course of the first term and the higher elementary school or are up to the same standard may be admitted to the second term.

A business continuation school may, if local circumstances require, provide itself only with the first or the second term. It may give further instruction to those who have completed the second term. Under special circumstances, a business continuation school of higher grade may be established for the purpose of giving specialized teaching.

The number of business continuation schools and that of their pupils for the years 1929-1933 were as follows :

Year	Schools	Pupils
1933	15,091	1,270,874
1932	15,083	1,271,971
1931	15,248	1,277,338
1930	15,284	1,226,835
1929	15,297	1,181,907

BUSINESS CONTINUATION SCHOOLS, 1932-1933

	Schools	Teachers	Pupils	Graduates	Entrants	Left School
Technical	101	391	13,093	6,245	11,511	3,973
Agricultural	12,330	15,785	990,856	331,170	474,475	83,171
Commercial	544	987	54,866	21,804	48,637	18,553
Navigation	2	3	192	90	91	—
Fisheries	250	187	18,578	5,733	8,496	1,892
Sewing	426	772	25,213	10,989	16,282	3,439
Tech. & Agri.	78	131	9,680	3,423	5,032	1,056
Tech. & Comm.	175	570	27,810	12,143	27,115	10,823
Tech. & Fisheries	1	—	49	16	20	12
Agri. & Comm.	601	1,197	65,326	20,801	34,141	7,904
Agri. & Fisheries	424	433	40,867	12,876	19,580	4,253
Comm. & Fisheries	31	50	2,767	953	1,709	431
Navi. & Fisheries	2	6	181	62	72	2
Tech. Agri. Comm.	56	198	8,375	2,922	5,027	1,299
Tech. Agri. Fish.	2	22	1,356	358	680	187
Tech. Comm. Fish.	10	40	1,560	476	730	205
Agri. Comm. Fish.	52	189	9,034	2,606	4,842	925
Tech. Agri. Comm. Fish.	6	21	1,971	411	444	94
Total	15,091	20,932	1,270,874	433,173	658,884	138,219

BUSINESS CONTINUATION SCHOOLS, May 1, 1933

(Report of the Bureau of Social Education)

Number of Schools	Teachers		Total
	Full time	Part time	
15,193	18,047	82,974	101,021
Male	Pupils		Expenses 1933-1934 budget
	Female	Total	
935,243	451,388	1,386,631	¥16,893,114

BUSINESS CONTINUATION SCHOOLS

(Classified According to Course of Study)

Technical	Agricultural	Commercial	Fisheries	Navigation	Tech. & Agri.
127	11,986	485	230	3	269
Tech. & Comm.	Agri. & Fisheries	Comm. & Fisheries	Agri. & Comm.	Others	Total
173	487	6	599	828	15,103

Higher Education

The institutions for higher education are higher schools, universities, colleges, and higher trade and industrial colleges.

Higher normal schools, institutions for training teachers of higher education, post-graduate or supplementary courses in secondary educational institutions and higher grade classes of the special educational institutions are mentioned under other headings; though they might be included here with the other higher educational organs.

The number of schools under this heading, higher normal schools and teachers training institutions and that of students on March 1 of each year follow:

Year	Schools	Students
1933	261	183,792
1932	254	183,809
1931	255	183,952
1930	254	179,038
1929	243	170,154

Higher Schools (Koto Gakko) The higher school is primarily an institution whose object is to complete the general education of young men. But it is as a matter of fact a preparatory school for universities

or higher trade and industrial colleges in present-day Japan. No women are admitted. It is divided into two courses, the higher and the lower. The former extends over three and the latter over four years, making seven in all. A post-graduate course of one year may be taken after the higher course. Some schools have the higher course alone. On May 30, 1933, the higher schools with the higher course alone numbered 24, while those with both lower and higher courses numbered 8.

The entrance requirements for the lower course are practically the same as those for the middle schools. The higher course is divided into the literature and science courses and a candidate must be one who has completed the lower course of the same school or one who has completed the fourth year of the middle school or whose scholastic attainments are equal or superior to the same standard.

There are about the same number of preparatory courses of universities which correspond to higher schools and are directly attached to universities. The following figures for 1932-1933 refer to the higher schools only.

HIGHER SCHOOLS

(1932-1933)

Schools	32
(Schools which have lower course)	(8)
Teachers	1,266
Lower Course	149
Students	18,150
Lower Course	2,439
Graduates	5,506
Lower Course	543
Applicants	32,236
Lower Course	3,450
Entrants	5,665
Lower Course	615
Left School	678
Lower Course	68

Of the 32 schools, 25 are governmental, 3 public and 4 private.

Universities A university (Daigaku), in its regular form, consists of several faculties, but a single faculty may also constitute a daigaku. Each faculty is required to have a post-graduate course, and in those universities which include several faculties a university hall may be established for keeping the various post-graduate courses in touch with one another. Under special circumstances a preparatory course may be provided.

Admission to a university is extended to the graduates from higher

schools and from preparatory courses of its own, and to those who have the same scholastic attainments. When a student has studied in the university for three years or more (four years or more in the faculty of medicine) from the date of his entrance, and has passed a prescribed examination, he may assume the degree of "Gaku-shi" (lit. "learned gentleman") or Bachelor. He is also qualified to enter the post-graduate course. In many universities facilities are provided for those who wish to pursue studies only in some particular subjects according to prescribed regulations.

A university is authorized to confer a doctor's degree on persons who have pursued studies for a period of two years or more in the post-graduate course and whose theses have been approved by the faculty council. Those who have not pursued studies in the post-graduate course may also submit theses and apply for doctor's degrees. The degree is conferred when the faculty council is satisfied with the theses.

UNIVERSITIES, March, 1933

GOVERNMENTAL:	Professors	Students & Pupils		Graduates	Applicants	Entrants	Left school
		Students	Pupils				
Tokyo Imperial	671	8,190		2,226	5,315	2,732	481
Kyoto Imperial	531	5,490		1,360	2,469	1,020	545
Tohoku Imperial	258	1,649		451	882	556	141
Kyushu Imperial	259	1,934		537	1,202	708	206
Hokkaido Imperial	287	2,337		664	3,650	765	97
Osaka Imperial	82	654		81	276	192	85
Niigata Medical	36	307		66	116	89	5
Okayama Medical	42	427		94	172	116	2
Chiba Medical	54	597		124	702	189	8
Kanazawa Medical	57	453		108	488	137	9
Nagasaki Medical	63	505		128	449	149	5
Kumamoto Medical	34	320		80	140	90	4
Nagoya Medical	46	398		107	91	91	4
Tokyo Commercial	174	2,035		622	2,381	701	82
Kobe Commercial	43	633		192	329	211	18
Tokyo Technical	109	507		156	298	170	17
Osaka Technical	96	384		107	272	132	19
Tokyo Literature and Science	118	298		92	153	113	8
Hiroshima Literature and Science	74	282		83	206	117	13
Total	19	3,084		7,278	19,591	9,178	1,749

	Professors	Students & Publics	Graduates	Applicants	Entrants	Left school
PUBLIC:						
Aichi Medical	8	82	82	—	—	2
Kyoto Medical	51	660	178	1,206	203	13
Osaka Commercial	58	760	226	944	273	24
Total	3	1,117	486	2,150	476	39
PRIVATE:						
Keio-Gijuku	290	6,579	1,847	4,597	2,115	423
Waseda	357	7,925	2,703	8,612	3,148	496
Meiji	181	3,767	1,244	2,212	1,689	323
Hosei	173	2,477	867	1,415	1,158	263
Chuo	147	2,189	595	1,887	999	479
Nippon	314	4,018	1,259	2,829	2,231	1,061
Kokugakuin	99	568	219	417	236	37
Doshisha	99	1,511	415	820	639	242
Tokyo Jikei-kai Medical	59	1,299	329	2,786	379	30
Ryukoku	89	747	207	337	262	130
Otani	62	559	162	258	196	52
Senshu	127	819	131	698	437	166
Rikkyo	112	1,375	377	735	556	97
Ryumei-kan	117	989	290	714	622	460
Kansai	116	1,482	445	807	711	293
Takushoku	94	795	251	488	350	100
Risshio	97	396	124	129	127	36
Komazawa	71	556	188	134	127	60
Tokyo Agricultural	72	551	199	435	250	66
Nippon Medical	54	994	319	2,601	312	18
Koyasan	52	232	74	145	131	39
Taisho	111	509	155	195	190	62
Toyo	63	356	111	232	146	29
Jochi	72	277	85	225	179	88
Kansai-gakuin	16	200	—	494	220	23
Total	24	3,044	41,260	12,596	34,202	17,418
Grand Total	46	6,195	70,162	20,860	53,943	27,072

The oldest of the 46 universities is Tokyo Imperial University, which was founded in 1886. Keio-Gijuku and Waseda were founded much earlier, but they were raised to the present standard in 1920 according to the ordinances enacted at that time.

Of the total number of students and pupils, that of regular university students was 46,975 and that of pupils in the preparatory course or elective courses was 23,187.

The following figures as they stood on March 1, 1932 and 1933 show the number of students in these universities classified according to faculties.

	1933	1932
Post graduate course	2,071	2,069
Law	8,165	7,935

Medical Science	7,707	6,769
Science	1,061	1,061
Agriculture	2,368	1,828
Economy	5,621	5,276
Commerce	4,842	4,761
Law and Literature	4,218	4,203
Politics and Economy	7,303	1,270
Technology	3,889	3,620
Literature	5,392	5,240
Law and Economy	588	621
Science and Technology	747	658
Literature and Science	550	574

Tokyo Imperial University

To give an idea of Japanese universities the following information on Tokyo Imperial University is given here.

The university is situated in Hongo, Tokyo, occupying about one hundred acres. It fell a victim of the quake-fire of 1923, and one-third of the total floor space of the entire

buildings was thrown out of use, while the remainder had to be repaired.

Besides ¥2,000,000 appropriated by the Government for immediate emergencies, the extraordinary session of the Diet held in the summer of 1924 made a grant of over ¥40,000,000 to enable the university to complete reconstruction in about 15 years. At present the restoration of all buildings, books, equipments is nearing completion.

History In 1854 the Tokugawa Shogunate opened the Yogaku-sho or an institute for foreign learning. The name of the institution was changed several times; for instance, the Kaisei-gakko in 1868, the Daigaku-nanko in 1869, the Tokyo Kaisei-gakko in 1874. Another institute was opened by the Tokugawa Shogunate in 1857, which was called the Shuto-kwan or an institute for vaccination. This in time developed into a medical school and became known in 1874 by the name of the Tokyo I-gakko or Tokyo Medical School. In April, 1877, the above two institutions were merged into one institution, known by the new name of the Tokyo Daigaku or Tokyo University. A little later the Tokyo Law School and the Technical College were united with it under the name of the Imperial University in March, 1886. The university had five faculties: law, medicine, engineering, literature, and science. The Tokyo Agricultural and Forestry School was incorporated into it in 1890, and in June, 1897, the university assumed its present name of Tokyo Imperial University.

Organization The university is a State institution and is organized in accordance with the Government's requirements for a university. It is composed of 7 faculties: law, medicine, engineering, literature, science, agriculture, and economics.

Besides the 7 faculties above mentioned there is a library in connection with the university. Hospitals and Dispensaries are connected with the Faculty of Medicine. An Institute for Historical Compilation is a part of the Faculty of Literature. Connected with the Faculty of Science are the Botanical Garden and the Marine Laboratory. Forests, farms, and the Institute for the Training of Agricultural School Teachers, are connected with the Faculty of Agriculture.

The Institute for the Study of Infectious Diseases, the Institute of Aeronautics, the Tokyo Astronomical Observatory, and the Earthquake Research Institute are also institutions attached to this university.

The Faculty of Law includes the 2 courses of law and politics, with 34 professorial chairs. The Faculty of Medicine includes the 2 courses of medicine and pharmacy, with 35 professorial chairs. The Faculty of Engineering includes the 10 courses of civil engineering, mechanical engineering, naval architecture and engineering, aeronautics, technology of ordnance, electrical engineering, architecture, applied chemistry, technology of explosives, mining and metallurgy, with 58 professorial chairs. The Faculty of Literature includes the 19 courses of Japanese literature, Japanese history, Chinese philosophy, Chinese literature, Oriental history, Occidental history, philosophy, Indian philosophy, psychology, ethics, theology and history of religion, sociology, pedagogics, esthetics and history of fine arts, philology, Sanskrit literature, English literature, German literature, and French literature, with 41 professorial chairs. The Faculty of Science includes 10 courses of mathematics, astronomy, physics, chemistry, zoology, botany, geology, mineralogy, geography, and seismology, with 41

professorial chairs. The Faculty of Agriculture includes the 6 courses of agriculture, agricultural chemistry, forestry, veterinary medicine, fishery, and agricultural economy, with 42 professorial chairs. The Faculty of Economics includes the 2 courses of political economy and commerce, with 17 professorial chairs.

Those of adequate learning, aged 19, or above, who are desirous of attending the lectures or experiments for one or more subjects prescribed in the faculty courses, may be admitted as elective pupils in the Faculties, but only when there are vacant seats.

Auditors may be admitted to the faculties on application, when the study of the students is not inconvenienced by their presence. They must conform with the conditions prescribed by the faculties, unless they are entrusted by the Japanese or foreign governments. In addition, there are practical courses of agriculture, forestry, and veterinary medicine in connection with the Faculty of Agriculture. Applicants for admission must be graduates from middle schools, or those who are recognized as having equal attainments.

Students who remain in one course for more than 6 years (in the course of medicine, 8) are struck off the school roll. The practical courses in the Faculty of Agriculture run for 3 years.

The period for scientific research by students in the University Hall is fixed at 2 years. If their research necessitates the prolongation of this period, the President may permit it, on their application, to the extent of 5 years. They are under the control of the dean of the faculty whose curriculum they follow. As to their teacher or teachers, the faculty concerned decides.

The university officials are the president, 234 professors, 156 as-

sistant professors, 3 secretaries, 1 administrative official, 5 officials for student affairs, 2 librarians, 284 assistants and 29 minor officials.

In May, 1934 the number of students was 8,050 in all. Post graduate students were: law 71, medical 22, technical 28, literature 374, science 97, agricultural 56, and economics 28. Under-graduate students were: law 2,358, medicine 694, technology 1,039, literature 1,284, science 351, agriculture 1,034, and economics 1,290.

Tuition is ¥120 a year for under graduates and ¥75 for post graduates.

Annual salary of the professors is from ¥1,130 to ¥4,050 besides the stipend attached to a chair from ¥500 to ¥1,600.

The Budget The budget for the fiscal year 1935-1936 is as follows:

REVENUE	
Ordinary	
From the Government	¥3,728,852
For business teachers' training	39,783
Miscellaneous income	4,070,520
Total	7,839,155
Extraordinary	
From the Government	120,000
From University forestry	83,460
From the Endowment Fund	795,817
Contributions	80,000
Total	1,079,277
Total revenue	8,918,432

EXPENDITURE	
Ordinary	
Salary	¥2,174,305
School disbursements	5,210,401
Salary of foreign professors	71,322
Pension allotment	375,374
Miscellaneous	7,753
Total	7,839,155
Extraordinary	
Buildings and repairs	811,629
Equipment and others	267,648
Total	1,079,277
Total expenditure	8,918,432

University Library Before the 1923 quake-fire the library contained ap-

proximately 700,000 volumes of books, but most of them were destroyed by the disaster. In order to make the loss good Marquis Yorimichi Tokugawa offered the university the whole of his Nanki Library with its precious collection of about 100,000 volumes, mostly Japanese and Chinese books. Contribution of books from nations of the world of over 325,000 volumes followed. The cases of books received from the British Committee for collecting English books financed by the British Government amounted to 271 in 1932. Gifts of books from all parts of the Empire amounted to 220,000 volumes, including those of the Nanki Library. The acquisition of books by purchase, including those bought with the Gov-

ernment Fund and the Rockefeller Fund reached over 495,000 volumes.

In December, 1924, Mr. John D. Rockefeller, Jr. of New York offered a fund of ¥4,000,000 for the reconstruction of the library. The plan of the new library was completed in 1925 and the building in November, 1928. The building is fire-proof and earthquake-proof, and has a floor-space of 5,100 tsubo. The largest reading room contains seats for over 1,200 persons. The number of books now exceeds 1,000,000 volumes.

Summary of Doctor's Degrees The following is a summary of doctor's degrees awarded during the past 46 years, or from May, 1888 to the end of 1934.

Name	totals	dead	surviving March, 1932	Awarded in 1882-1933
Dr. of Laws	277	80	192	5
" " Literature	284	87	188	9
" " Science	506	72	394	40
" " Technology	675	157	488	30
" " Agriculture	297	31	244	22
" " Forestry	50	11	38	1
" " Medicine	6,949	331	5,785	783
" " Pharmacology	88	20	63	5
" " Veterinary	35	19	15	1
" " Economics	36	—	31	5
" " Commerce	11	—	9	2
" " Political Science	2	—	2	—
Total	9,210	858	7,449	903

Colleges, and Higher Trade and Industrial Colleges "College" is the usual translation of the Japanese "Semmon Gakko" or Speciality School, but they are very different from colleges among Western nations and are organs for training the young people in some kind of professional studies.

The required length of the course of a college is three years or more. For admission to an art or music school, the completion of the third year of the middle school or the

girls' high school or the possession of equal or higher scholastic attainments is required, while for admission to all other colleges the completion of the course of the said second grade schools or similar or higher scholastic attainments is required.

In March, 1933, there were 116 colleges, 8 of them being founded and maintained by the Government, 9 by public bodies and the rest by private bodies. They may be classified as follows according to their nature:

Pharmacy	7	Agriculture	1
" for women	5	Colonization	1
Medical Science	5	Mathematics and Chemistry	1
" " for women	3	Meteorology	1
Dentistry	5	Athletics	2
" for women	2	Fencing and Judo	1
Medical and pharmacy, for women	1	Literature and Domestic Science, for women	18
Nursing for women	1	Literature and Science, for women	2
Languages	3	Domestic economy, for women	1
Literature	6	Sewing and Handiwork, for women	10
" for women	5	Total	116
Religion	11		
Christian Theology	3		
Painting and other fine arts	1		
Music	3		
Commerce	1		
Commerce, Literature, Religion or Theology	8		
Law, Economy, Commerce, Industry	13		

The following table shows the movement of the college students, classified according to their course of study, in 1932-1933.

Course of Study	Students		Graduates		Applicants		Entrants		Left school	
	male	female	male	female	male	female	male	female	male	female
Medical Science	44,24	2,137	978	381	10,988	1,094	919	451	97	85
Pharmacy	2,659	2,372	749	398	7,439	1,518	974	941	91	196
Dentistry	3,977	578	867	188	3,107	317	1,069	284	148	50
Law	12,034	106	2,804	28	8,585	86	6,540	71	3,814	71
Economy	1,519	—	338	—	934	—	806	—	534	—
Commerce	9,741	15	2,441	3	8,791	8	4,426	5	1,841	2
Literature	8,907	3,771	2,509	1,092	7,432	2,088	3,890	1,403	2,109	567
Mathematics and Chemistry	1,385	59	140	10	2,710	33	835	23	970	1
Domestic Science	—	3,603	—	1,084	—	2,364	—	1,608	—	508
Sewing	—	2,900	—	1,108	—	1,965	—	1,439	—	410
Handiwork	—	62	—	28	—	40	—	28	—	12
Religion	2,542	29	543	8	1,288	16	985	13	317	4
Fine arts	1,055	243	200	62	1,266	91	267	78	105	86
Music	295	786	42	97	333	690	185	355	117	168
Athletics	470	133	85	53	520	93	169	64	52	3
Agriculture	618	—	196	—	688	—	224	—	66	—
Colonization	118	—	25	—	147	—	136	—	79	—
Nursing	—	59	—	12	—	54	—	31	—	9
Meteorology	27	—	13	—	—	—	—	—	1	—
Industry	717	—	197	—	1,362	—	291	—	91	—
Total	50,488	16,853	12,127	4,502	55,590	10,457	21,716	6,794	10,542	2,046

The number of Higher Trade and Industrial Colleges and that of their professors and students was as follows in the same school year.

Kind	Colleges	Professors	Students	Graduates	Applicants	Entrants	Left school
Technical	19	860	7,471	2,306	16,428	2,572	290
Agricultural	12	467	3,759	1,293	7,645	1,469	152
Commercial	21	674	9,644	2,826	14,411	3,928	550
Navigation	2	122	1,672	283	2,180	244	42
Total	54	2,123	22,546	6,708	664	8,213	1,034

Other Education

Besides the schools stated above, there are kindergartens, schools for

the blind, schools for the deaf and dumb, and miscellaneous schools.

Kindergartens are found chiefly in larger towns. With

general social progress, however, the necessity of their improvement and diffusion being greatly felt in spite of the recent financial depression, an Imperial Ordinance for Kindergartens has lately been issued to encourage their further development. Kindergartens receive children from 3 years of age to school age or full six years of age.

The following table gives the number of kindergartens and that of children attending in the years 1929-1933:

Year	Kindergartens	Children
1933	1,708	129,001
1932	1,622	120,564
1931	1,510	121,975
1930	1,397	114,749
1929	1,294	107,236

Education for the Blind and the Dumb It has been the educational policy of the Japanese Government since the beginning of the Meiji Era that there shall be no illiterates in the country. Therefore, even persons with physical defects are admitted to elementary, middle or girls' high schools, provided that they are fit to attend a greater part of the lessons. But boys and girls who are blind or deaf and dumb are encouraged to enter schools specially founded for them. A special ordinance relating to the schools for the blind, and schools for the deaf and dumb has lately been issued for the purpose of perfecting their elementary and secondary education. The following table gives the number of them and that of their pupils in the years 1929-1933.

Year	Schools	Pupils	Blind	Deaf & Dumb
1933	137	8,939	4,618	4,326
1932	130	8,694	4,550	4,144
1931	125	8,137	4,306	3,831
1930	132	7,728	4,088	3,640
1929	119	7,232	3,768	3,464

Miscellaneous Schools Under the heading of "Miscellaneous Schools," the Japanese Government includes for convenience' sake all schools which do not fully come into any definite category of schools under the provisions in the laws and ordinances.

The following table gives the number of miscellaneous schools and that of their pupils in the years 1929-1933:

Year	Schools	Pupils
1933	1,917	203,123
1932	1,935	196,908
1931	1,932	217,257
1930	1,879	228,512
1929	1,795	227,104

Since the establishment of miscellaneous schools is left to the discretion of the founders, there can be no uniformity as to the courses and subjects of study. Some aim at simple and quick completion, while some keep high standards and their work is equivalent to or even higher than that of colleges mentioned in the foregoing passages. Some, again, resemble the middle school, the girls' high school, or the technical school. Among miscellaneous schools, there are not a few which are to be highly estimated as educational institutions in their ideals and new methods of education. Many of the Christian schools are included among them.

New Educational Movements The educational system of Japan is so complete, as is specially the case with primary school education, that there has been hardly any room for such free educational movements as in Europe and America. The progress in other lines of national life, however, naturally stimulated the awakening of scholars and practical educators towards the end of the Meiji era. The development of major cities presented a large field for the

experiment of new educational work. Influenced by Western thoughts and guided by scholars who gave expositions on European and American educational thoughts so as to adapt the characteristic environments in Japan, many new schools have been established in Tokyo and Osaka. Their scope of influence as well as their number is limited, and the new movement, which is more or less radical, is going through difficult times owing to the reactionary tendency in these years; but the existence of such schools as Mrs. Masako Yoshano's Bunka-gakuin, Mrs. Moto-ko Hani's Jiyu-gakuen, and Mr. Kuniyoshi Obara's Seijo-gakuen proves the demand for and appreciation of new education among the more advanced quarters of urban population. The new educational movement among primary school teachers must not be overlooked. Their curriculum cannot deviate very much from that fixed by the government, but their efforts for handling materials so as to adapt the local environment of the pupils and to take in the projective method are bringing about good results. The representative schools are Tajima Primary School in Kawasaki, Urashima Primary School in Yokohama, etc. Primary schools of a similar kind may be found in many places throughout the country.

Training of Teachers

The Japanese Government, alive to the necessity of having a large supply of capable teachers, has spared no efforts in the completion of organs for their training. To give an outline of the present system, Hokkaido and the prefectures are called upon to establish and maintain at least one normal school each, and an institution for the training of business continuation school teachers when circumstances make it necessary, a responsibility which

is also imposed on the cities. The Government itself undertakes the training of teachers of normal schools, middle schools, girls' high schools and technical schools by establishing and maintaining higher normal schools, higher normal schools for women, special institutes for the training of teachers, etc., and the students of these schools are given scholarships, covering part of their expenses, either by the Government or by the local public bodies. Moreover, such of the students of universities, colleges and the like as intend to become teachers, receive aid out of public funds or may be exempted from the payment of fees. Persons who have proved themselves deserving extended aid are chosen for studying abroad in order that they may be better qualified to teach higher arts and sciences.

The following table gives the number of schools for training teachers and that of their students in the years 1929-1933:

Year	Schools ¹	Students
1933	157	41,060
1932	167	44,609
1931	175	49,226
1930	178	53,308
1929	174	54,983

Organs for Training Elementary School Teachers The principal organs for training elementary school teachers are the normal schools, while the training course B grade of the Tokyo Academy of Music trains music teachers for elementary schools.

A normal school consists of the regular and the post-graduate courses, the former is divided into the first and second sections. The course of study of the first section extends over five years and it takes

¹ Note: There are 2 colleges and their students are included in this as well as in the number of the table on colleges.

in the graduates of higher elementary schools of a two years' course or persons of over 14 years of age who have similar attainments. The course of study of the second section runs for two years and it takes in graduates of middle schools, girls' high schools and persons of similar scholastic attainments.

The following table gives the number of normal schools and that of their students and graduates in the years 1929-1933:

Year	Schools	Students	Graduates
1933	103	30,607	12,611
1932	104	33,868	11,033
1931	105	43,852	15,524
1930	105	47,444	16,895
1929	104	48,950	18,128

Organs for Training Teachers for Secondary Education As organs for training the teachers of secondary education, there are the higher normal schools, higher normal schools for women, special institutes for training teachers, the training course in drawing of the Tokyo Academy of Fine Arts and the training course, grade A of the Tokyo Academy of Music. The systems differ more or less with the schools or the main subjects taught, but their entrance requirements are, generally speaking, the completion of middle school, girls' high school and normal school, or the possession of the same or higher scholastic attainments, and their courses extend over four, three or two years, with additional post-

graduate and special investigation courses.

The following table gives the number of the schools for the training of secondary school teachers and that of their students and graduates in the years 1929-1933:

Year	Schools	Students	Graduates
1933	10	4,421	925
1932	15	4,245	—
1931	20	4,747	—
1930	22	4,189	—
1929	21	4,432	—

In addition to the foregoing, teachers' certificates are issued without examination to graduates of high grade schools both in Japan and in other countries in order to meet the deficiency in the supply of secondary school teachers. The main conditions are that the schools in question must be equal to or higher than the higher normal schools of Japan in entrance requirements and in curricula. Including those who passed examination there were 10,840 persons who received such certificates in 1932-1933.

Organs for Training Business School Teachers For the purpose of training teachers of practical subjects in technical schools, institutes are attached to the Government universities and colleges. They are of a three year course, the scholastic standard corresponding to that of the colleges.

The following table gives the number of such institutes and that of their students and graduates in the years 1929-1933:

Year	Agricultural		Technical		Commercial		Total		Graduates
	Schools	Students	Schools	Students	Schools	Students	Schools	Students	
1933	1	116	2	150	1	105	4	371	113
1932	1	121	2	150	1	103	4	374	116
1931	1	117	4	151	1	97	6	365	113
1930	1	120	4	157	1	96	6	373	120
1929	1	80	2	162	1	90	4	341	123

As further means of providing business school teachers, certificates are issued without examination to graduates of certain specified schools. Including those who passed examination the number of persons who received such certificates in 1932-1933 was 410.

Organs for Training Teachers of Business Continuation Schools For this purpose there are institutes which Hokkaido, the prefectures and cities alone are authorized to establish. They are of one or two year courses above the secondary education. The following table shows the number of these institutes and that of their students since the system was introduced in 1927:

Year	Institutes	Students	Graduates
1933	42	1,039	618
1932	44	1,122	656
1931	44	1,232	856
1930	45	1,299	873
1929	45	1,230	977

Training of High-grade Professors No particular schools are instituted for the training of high-grade teachers. Scholarships, however, are given to students of the post-graduate courses of higher normal schools for training such professors. Further, persons of adequate career and experience are sent to foreign countries for a further prosecution of studies, their expenses being met by the Government. The following are figures concerning such persons at the end of March, each year:

Teachers of	Applicants	Passed examination
Elementary School and Kindergarten	35,891	4,585
Normal School, Middle School and Girls' School	7,328	574
Higher department of Higher School	125	13
Business School	894	116
Total	44,228	5,288

Year	Students abroad	Year	Students abroad
1933	184	1930	361
1932	191	1929	423
1931	219	1928	437

As a further means of supplying higher grade professors, a professor's licence is granted to persons holding doctor's degrees and those who have graduated from universities and colleges. In 1932-1933 the number of persons who received Higher School Professor's licences was 1,012, of which 7 were women.

Training of Special School Teachers and Nurses of Kindergartens Teachers for the blind and the deaf and dumb are trained in the training courses in the Tokyo School for the Blind and the Tokyo School for the Deaf and Dumb. The nurses of kindergartens are trained in the training courses provided in women's normal schools, special courses in the higher normal schools for women and in the special institutions for the purpose established by private bodies. In 1932-1933 the number of kindergarten nurses' certificates without examination was 943.

Teacher's Certificate Given by Examination Persons who have similar scholastic attainments with the graduates of the schools mentioned above, may ask for an examination to get a teacher's licence. They have to undergo a strict examination by the special examination committees of the Educational Department. The number of persons who passed the examinations during 1932-1933 was 5,288. These may be classified as follows:

Applicants	Passed examination
35,891	4,585
7,328	574
125	13
894	116
44,228	5,288

Physical Education and School Hygiene

With a view to promoting the rational development of the young and to encourage and further the spread of gymnastics, games and athletic sports, both eastern and western, there was established in 1924 a national Institute for Research in Physical Training, where research work is now in active progress.

For school hygiene, special attention is paid to buildings and equipments, and efforts are being made to improve and strengthen the physical constitution of pupils and students by employing school physicians, dentists and nurses, by taking measures for the prevention of infectious diseases in schools, by making plans for open-air schools, vacation colonies, school feeding, school clinics and the like.

For the administrative organs responsible for the work referred to, Hokkaido and prefectures have school hygienic experts and directors of physical training, while the Department of Education has the Section of Physical Training, Supervisors of School Hygiene and the Institute for Research in Physical Training. In addition, there are provided in the Educational Department a School Hygiene Investigation Committee and a Physical Training Investigation Council, which investigate and make researches in important questions submitted to them by the Minister of Education.

Social Education

For the diffusion and development of social education there has been created a Bureau of Social Education in the Department of Education, and a certain number of supervisors of social education are appointed in the Department, and directors of the same in the local governments.

Adult Education For the benefit of those adults who have had little or no chance to receive regular education, the Department has requested some of the schools under its direct control or under that of the local governments to start a series of lectures. Most of the adults who are gathered to these lectures are labourers or farmers, and fuller reference to this is made in the chapter on labour.

Libraries The spread of libraries in Japan has been rather slow because of many reasons, but the place of the library in social education has been understood more and more clearly with the advancement of national and international life in recent years. The Government, therefore, established a national library at Ueno, Tokyo, and at the same time has given encouragement to local public bodies for establishing their own libraries by granting subsidies to them. It also tries to help them by holding short period courses for training capable librarians. The results of these efforts have been a notable progress in libraries, as may be observed in the following table:

Year	Public Libraries	Books (Unit, 1,000)	Readers	Daily average of readers of a library
1933	4,696	10,563	24,766	20
1932	4,609	10,138	24,980	21
1931	4,609	9,636	23,355	19
1930	4,553	9,276	22,835	19
1929	4,490	8,592	22,847	20

In November, 1931, the Tokyo Science Museum was established by the Government. It is located in Ueno Park, Tokyo and exhibits 1,579 technical and machine models and 100,858 specimens of natural science. In 1932-1933 224,854 people visited it in 356 days.

Cultural Work In order to promote the national spirit, as well as to effect the betterment of manners and mode of living, the Department of Education has taken up the task of furthering cultural work by giving encouragement to the activities of bodies and individual persons connected generally with national education and social enlightenment. Special efforts are being made to attain the object in view by establishing institutions and organs of various kinds, thus forming a cultural network throughout the country.

Young Men's Training Institutes A young men's training institute is designed to give mental and physical culture to young men with a view to maintaining and improving national standards. These institutions which are found all over Japan, side by side with the business continuation schools, are now reaping a good result. The following are the figures for such institutes and their pupils in the years 1929-1933.

Year	Training Institutes	Students
1929	15,546	835,723
1932	15,350	796,132
1931	15,617	794,171
1930	15,637	806,454
1929	15,766	843,702

Young Men's and Young Women's Associations With the object of giving mental and moral culture to those young men and women who are no longer cared for in the schools, the organization of young men's and young women's

associations has been encouraged so that there is at present hardly any city, town, or village where they are not established. These associations work, on the whole, according to the principle of self-government, quite different from the foregoing Training Institutes, and along the lines which they choose in view of the circumstances peculiar to themselves.

The following table shows the number of young men's and young women's associations and that of their members in the years 1929-1933:

Year	Y.M.A. Members	Y.W.A. Members
1933	15,800 2,497,166	13,378 1,522,041
1932	15,865 2,518,173	13,394 1,534,125
1931	15,202 2,495,708	13,225 1,567,123
1930	15,144 2,553,192	13,322 1,550,460
1929	15,295 2,534,326	13,043 1,514,452

Boy Scouts and Girl Guides The boy scout movement, which is also an important item in the social education of the young, has made much progress since the organization of the Japan Federation of Boy Scouts in 1922. The President of the Federation was the late Count Shimpei Goto, and its head office was located in the Department of Education building. The boy scouts which are affiliated with the Federation are scattered all over the Empire except 4 prefectures in Japan proper and the South Sea Mandated Islands. In 1925, the Marine Branch was established and it owns a training-ship.

The number of boy scout organizations and that of the members were approximately 1,100 and 90,000 respectively in March, 1935. The Federation is led by Count Yoshinori Futara at present.

The girl guide movement was first introduced into Japan in 1920. The earliest organizations appeared in Tokyo and Morioka, and the movement gradually spread over dif-

ferent parts of the country, although it has not yet achieved such progress as the boy scout movement, having only 27 guides with about 300 girls in 1931.

Educational Expenditure

Education in Japan, as previously mentioned, is principally controlled by the State, though it is partly delegated to local public bodies and partly carried on by private individuals or organizations by permission of the Government, and the expenditure incurred is met from these three different financial sources.

Part of the educational expenses of local public bodies, however, is met by the State Treasury in order that the teachers may be sufficiently paid and the burdens on the rate-payers may not be too heavy. Formerly the sum of ¥10,000,000 was yearly defrayed for this purpose, but it has been recently increased to ¥85,000,000 or more, and destitute municipalities receive special consideration in the apportionment of the grant.

Local governments are required to pay additional salaries at certain rates for long service to the teachers

of schools for which they are directly responsible. To meet part of these expenditures, the Government allocates a sum of money fixed annually in the National Budget and divides it among Hokkaido and the prefectures in proportion to the number of teachers. In cases where a city, town or a village undertakes to pay for residences of elementary school teachers, the higher local body is required to share part of the expense.

No investigation having been made, by any authoritative body, as to the amount of private money spent on education, the figures given in the following tables refer only to the amounts expended by the Government and local public bodies. In recent years educational undertakings have been greatly extended and the treatment of teachers considerably improved in accordance with the post-war programme of the country, and this has caused the educational expenditures to swell in a remarkable degree. The following table shows the total governmental and public educational expenditures during the years 1929-1933:

Year	State Treasury	Prefectures	Cities	Towns and Villages	School Associations	Total
1933	¥148,083,243	97,885,783	87,580,024	199,345,706	89,838	532,984,684
1932	137,239,255	106,856,178	77,676,969	197,723,655	87,829	519,583,886
1931	143,320,002	111,298,987	81,642,411	213,334,298	71,733	549,667,431 ¹
1930	144,373,838	114,502,616	96,687,293	235,809,221	79,182	591,542,150
1929	134,902,101	113,295,483	101,832,676	256,132,052	61,740	606,224,052

¹ Note: The figures refer to the settled accounts of the fiscal years. For instance, the year 1931 means the fiscal year April, 1930—March, 1931.

The above table does not include the amounts expended on local educational administration.

In order to show the total expenditures, both governmental and local, the year 1932-1933 is taken and full details of the items of expenditures are shown:

GOVERNMENTAL EDUCATIONAL EXPENDITURE

1932-1933	
Administration	¥2,750,269
Elementary and Secondary education	90,664,294
Business education	601,980
Social education	2,135,113
Blind, Deaf and Dumb education	159,614
Universities and libraries	31,705,808
Miscellaneous	20,066,165
Total	148,083,243

PUBLIC EDUCATIONAL EXPENDITURES BORNE BY LOCAL
PUBLIC BODIES

Kind of Education	Hokkaido & Prefectures	1931-1932			Total
		Cities	Towns & Villages	School Associations of Municipalities	
Elementary Schools	—	¥71,369,461	¥174,182,978	¥37,295	¥245,589,734
Normal Schools	¥9,738,796	—	—	—	9,738,796
Middle Schools	20,836,664	262,868	206,260	43,778	21,349,570
Girls' High Schools	18,829,498	2,164,708	2,139,925	—	19,184,131
Higher Schools	715,310	—	—	—	715,310
Universities	1,191,750	934,060	—	—	2,125,810
Colleges	411,615	120,668	—	—	532,283
Business Schools	16,091,146	7,493,049	13,884,206	5,307	37,473,708
Teachers' Training Schools	335,188	—	—	—	335,188
Blind Schools	622,838	86,061	12	—	708,911
Deaf and Dumb Schools	143,470	82,932	—	—	226,402
Miscellaneous Schools	57,767	283,240	57,792	—	398,799
Young Men's Training Institutes	—	1,023,319	3,762,461	625	4,786,405
Kindergartens	—	931,554	462,487	—	1,394,041
Libraries	507,512	631,242	251,579	—	1,390,333
Miscellaneous	33,404,229	2,196,862	4,398,096	2,833	40,002,020
al	97,885,783	87,580,024	199,345,796	89,838	384,901,441

The total amount of educational expenditure in Japan proper borne by private bodies is estimated at

¥36,000,000 a year, as may be seen from the following table:

School	Year	Expenditure
Middle Schools	1931-1932	¥4,471,645
Girls' High Schools	"	6,752,057
Miscellaneous Schools resembling Middle and Girls' High Schools	1932-1933	1,738,730 (estimate)
Girls' Domestic High Schools	1931-1932	306,429
Business Schools	"	6,477,753
Higher Schools	1932-1933	408,800 (estimate)
Colleges	"	6,646,900 (estimate)
Universities	"	8,698,700 (estimate)
Total		35,901,014

Other Schools

There are schools in Japan proper which do not come under the control of the Educational Department, and they have been excluded from the foregoing sections. But to complete the chapter on education we cannot pass without some mention of them. Fuller explanations may also be found in other chapters.

Peers' Schools They belong to the Department of the Imperial Household, and the purpose of their establishment is the education of the nobility, but admission to them is by no means restricted to children of titled families. They are called the Gakushu-in and Joshi (woman) Gakushu-in. The former is for boys and is composed of three departments, namely, elementary,

middle school, and college. In Sept., 1933, it had 69 teachers and 917 pupils. The latter is composed of two departments, namely, high school and college. In Sept., 1933, it had 69 teachers and 735 pupils.

Two Special Schools The Department of Foreign Affairs has two schools; one is the To-a Dobun Sho-in (Tung Wen College) in Shanghai and the other the Russo-Japanese Association School at Harbin.

The Jingu-kogakkan This was established by the Home Department and is a Shinto seminary.

The Fisheries Institute This is under the Department of Agriculture and Forestry.

In the Territories, schools are under the control of the Territorial Governments, as a matter of course, and full descriptions of them may be found in the chapters on Territories. However, a list of the various universities and colleges is here appended.

CHOSEN

Keijo (Seoul) Imperial University
Keijo Imperial University Preparatory School
Keijo Law College
Keijo Medical College
Keijo Technical College

Schools	Teachers		Total	Pupils & Students		Total
	male	female		male	female	
Elementary	—	4	4	143	83	226
Higher Normal	5	—	5	146	—	146
Woman's Higher Normal	—	1	1	—	29	29
Middle Schools	89	8	47	11	—	11
Girls' High Schools	2	53	55	—	2	2
Higher Schools	70	2	72	81	—	81
Universities	123	2	125	478	13	486
Colleges	130	66	196	186	44	230
Business Colleges	66	—	66	80	—	80
Business Schools	37	14	51	4	—	4
Miscellaneous	70	367	437	563	374	937
Total	542	517	1,059	1,687	545	2,232

The comparison for the five years, 1929-1933, is as follows:

Year	Teachers	Students
1933	1,059	2,232
1932	908	2,761
1931	940	4,983
1930	871	3,588
1929	902	3,252

Suigen Agricultural and Forestry College
Keijo Commercial College
Eight private colleges

TAIWAN

Taihoku Imperial University
Taihoku College
Four other colleges

KWANTUNG

Ryojun (Port Arthur) Technical University
Preparatory College for the same
Four private colleges

Foreign Teachers and Students

The number of teachers and professors from Western countries engaged by Japanese schools or sent by Christian denominations in foreign lands in recent years was on the increase, and the fact shows that Japan and the Japanese are still eager to learn from the West. It may be safely said that the relations between Japan and the Western nations are becoming more intimate with the advancement of Japanese civilization and the international spirit of the people at large. The number of foreign students is also on the increase, the majority being young men from China, but the Manchurian incident affected their number for the time being. The number of foreign teachers and students at the end of March, 1933, was as follows:

CHAPTER XXIX

RELIGION

General Survey

From prehistoric ages Japan has had an indigenous cult which is now known as Shinto. Confucianism and Buddhism were introduced through Korea and China later, and Christianity more recently still. Islam, however, never gained a footing on her soil, though its literature has been introduced to some slight extent.

Shintoism has had nothing to do with the thought and life of the people, apart from its relations with the functions of the guardian deities of the nation and communities. It resembles the primitive Greek or Roman cults, but is much simpler and purer, both as regards the nature of its deities and the motives of its worshippers. It is now divided into two, namely, national Shintoism, which is represented by the shrines, and sectarian Shintoism, which developed towards the end of the Tokugawa Shogunate.

Confucianism is rather a code of moral precepts than a religion, except in that it teaches some vague ideas regarding a heavenly God. In the realm of moral culture it has exerted great influence on the minds of the Japanese people and on their principles of daily life; that influence being very noticeable in the Imperial Rescript on Education of the Emperor Meiji. Further mention of Confucianism will be omitted here because it has no meaning as a religious cult.

Buddhism has had still greater influence on all phases of Japanese life. Its fatalism has had a retarding effect on the material progress

of the Japanese as with other Oriental nations, but has induced a habit of dauntless composure in their behaviour, and its broad philanthropy gave rise to a spirit of mutual help among the people, subduing egoism or individualism. Its philosophical literature fed the national thought, while its fine art has left many masterpieces enriching the cultural life of the Japanese. This cult is still the most powerful among religions in Japan.

Christianity has made valuable contributions toward the civilization of Japan with its world-wide nature and positive teachings on human life. The number of believers is comparatively small, but its influence on the people's thought and morals is said to be even greater than that of Buddhism. It has raised Japan's moral standards, waging war against licensed prostitution, the low position of women, drinking and smoking, and polygamy as practised in a certain section of society. It has still to amalgamate itself with the life of the people in order to exert great influence upon them, but its future is hopeful.

Shinto Shrines

Most Shinto shrines are supervised by the Shrine Bureau of the Home Department, which consists of one chief official and 64 minor officials. The budgets of the Bureau for the fiscal year 1934-35 and 1935-36 are as follows:

Running expenses	1934-35	1935-36
Isé Great Shrine	¥230,000	¥230,000
Other national shrines	750,000	750,000
Ceremonies and rituals	7,105	7,105
Soldiers' shrines	14,255	14,255
Total	1,001,360	1,001,360

SHINTO SHRINES

809

	1934-35	1935-36
Incidental expenses		
Repairs	¥396,500	¥849,000
Education of priests	11,066	11,066
Investigation	26,575	20,066
Reconstruction	35,040	35,184
Total	469,181	915,316
Sum total	1,470,541	1,916,676

The increase of repairs in 1935-36 is for shrines damaged by the typhoon of September 21, 1934.

The Isé Great Shrine is the most honoured of all the shrines as the first national shrine. The Goddess enshrined in it is Amaterasu-Omikami, which may be translated as Heaven-Shining-Great-God. According to the Japanese mythology, Amaterasu-Omikami sent down her grandson to the Nippon Islands to rule the people by the Kingly Way, giving him the Three Sacred Treasures, which have been handed down even to the present Emperor as the sacred symbols of the Imperial Throne (see Appendix, The Constitution of Japan; The Imperial Household Law Article X; and Chapter III). In the Great Shrine and appendant shrines more than 10 gods, who represent the Imperial ancestors or personify natural powers, are installed beside the principal Goddess.

The name of the shrine comes from its location in Isé province or more accurately on the Isuzu river, city of Ujiyamada, Miyé prefecture. The whole sacred area of the Great Shrine includes 13,135 acres.

About 87 priests are attending it under a chief priest. There are established a seminary for the education of priests, a police station, two museums, and a library in connection with the shrine.

The budget for the fiscal year 1932-1933 was ¥1,457,044, its fund amounting to ¥2,026,432.

According to the report of the Shrine Bureau, the Home Department, the number of other shrines in 1932 was as follows:

Governmental and national shrines (in the whole Empire)	200
Prefectural and village shrines (in Japan proper)	49,454
Private shrines (in Japan proper)	61,500
Soldiers' shrines (in Japan proper)	123

The number of private shrines in Japan proper has been steadily decreasing since 1889, lessening from 136,783 in that year to 61,500 in 1932. There were many too superstitious and barbarous ones among them and the decrease speaks of the healthy progress of the religious ideas of the people and the radical policy of the government.

The total area of the sacred campus of these shrines (not including soldiers' shrines) covered 76,948,646 tsubo, 65,721,332 of it being government property.

The settled accounts of the 200 governmental and national shrines in the fiscal year 1931-1932 were as follows:

Income (yen)	Disbursement	Balance
3,690,601	3,409,045	290,556

In the income, there is included the contributions of worshippers amounting to ¥2,068,265. There were 11 shrines at which the contributions amounted to over ¥50,000. The sum total of the different kinds of fund possessed by these shrines amounted to ¥11,777,045 in the same fiscal year.

The total number of priests in Japan proper at the end of the year 1932 was 15,375.

For the education of priests there are one seminary of college grade at Isé as mentioned above, a department in Kokugakuin (Japanese literature) College of junior college grade, a middle school grade seminary affixed to the one at Isé, and 26 smaller places for giving a course of study, the total number of students being not more than 2,100.

It may be said, therefore, that the education of Shinto priests is much lower than that of Buddhist priests or Christian pastors.

Sectarian Shintoism

Shinto Sect This sect is called by the general name given to the national cult when by this name the various Shinto branches were known. The principal ideas of the sect are to develop the Great Way of the Gods, and to propagate the national cult indigenous to the people of this country. Its believers and devotees consider it their most important duty to cultivate reverence for the gods, cherish the spirit of patriotism, elucidate Heavenly Reason and Humanity, pay homage to the Emperor, and observe all the Imperial ordinances.

Kurozumi Sect This was founded by Munetada Kurozumi (1780-1850), who was born at a small village of Okayama prefecture. His main idea was to inhale, while contemplating the Goddess Amaterasu-Omikami, the energy of the sun, and thereby to fill up the heart with satisfaction and complaisance. He teaches to avoid the following seven evils, which are against the will of the gods: (1) to be faithless to the country of the gods in which one was born; (2) to get angry and to worry over things; (3) to be arrogant and spiteful; (4) to entertain evil desires from seeing others do evil; (5) to neglect one's household affairs while in good health; (6) not to have sincerity even when one is entering upon the path of sincerity; and (7) not to accept things gratefully for which one ought to be grateful every day.

Shinto-Shusei Sect Kunimitsu Nitta (1829-1902), who was born in the province of Awa, was the founder of this sect. According to its tenets, the great source of the Way

issues from the three gods: Amenominakanushi-no-kami, Takamimusubi-no-kami, and Kamimusubi-no-kami. All human beings get their spirits originally from these gods, and our spirits, which are essentially as pure and as good even as the gods themselves, must be lovingly cherished and preserved. In order to do this, a doctrine is needed, which will keep our spirits under discipline, that is, well in order and in perfection.

Taiasha Sect This was revived through the efforts of Sompuku Sengé (1845-1918), and teaches to revere and observe the divine will of the God Okuninushi, whose ideas of administration and spirituality constitute the Great Way of the Gods. When this is elucidated and the heavenly nature of the people is preserved, one's duty to the state is fulfilled, and all will be good, law-abiding citizens.

Fuso Sect The founder was Takekuni Fujiwara (1541-1646), and the one who furthered it was Han Shishino. Its chief doctrine is to worship the spiritual virtues of the three gods. Amenominakanushi-no-kami, Takamimusubi-no-kami, and Kamimusubi-no-kami.

Taisei Sect This was founded by Shosai Hirayama (1815-'90). The principal point of his teaching is to enhance the Great Way of the Gods. Its tenets are: (1) to worship the heavenly gods and the earthly gods and pay homage to the Imperial Sanctuary as well as to the august spirits of the successive Emperors; (2) to revere the divine ordinances infinite as heaven and earth, to extend the national principle of this country; (3) to illustrate in practice the moral codes ordered by heaven; (4) to discipline oneself in morality and truth, to fix the basis of faith wherein one gains peace

of mind; (5) to abide in the One Truth which unifies the two realms of the Manifested and the Hidden, to get enlightenment on the true meaning of life and death; (6) to undertake scientific investigations and encourage various enterprises; and (7) as regards the divine rites and ceremonial affairs, to follow the traditional standards which have been bequeathed by the successive courts.

Jikko Sect This sect, founded by Hanamori Shibata (1809-'90), makes it its principal teaching to promulgate the Great Way of the Gods, which is to be put into practice in our everyday life. We read in its tenets: (1) to enhance the Great Way of the Gods; (2) to study the ceremonial codes of this Divine Land; and (3) to spread the doctrine original to this country.

Shinshu Sect The founder of this sect was Masamochi Yoshimura (1839-1916) of Mimasaka province. He teaches to worship the heavenly gods and the earthly gods, to practise the divine rites according to the ceremonial codes of the successive courts as well as according to the formulas bequeathed by the family of Onakatomi, and to enhance the Great Way of the Gods.

Ontaké Sect Its teachings chiefly consist in following the Perfect Way of the Gods, enhancing the great principles of reverence to the gods, honour to the Emperor, and patriotism, and engaging in mission work in accordance with the laws of the state. The chief gods to whom worship is offered are Kunitokodachi-no-mikoto, Onamuchi-no-mikoto, and Sukunahikona-no-mikoto, who are called the Great Gods of Ontaké. Their spirits are believed to have been incorporated in Mount Ontaké, which means literally the "honourable mountain," on which the gods taught mankind the arts

of medicine and magic. The origin of the sect is considered to lie in this legend.

Misogi Sect The Misogi Sect, or the Sect of Water Purification, was founded by Masakané Inouyé (1790-1849) of Isé province. This sect is an extension of the Shinto doctrine which teaches purification and keeping evils away. These two practices are divine deeds which originated with the Gods Izanagi and Susano-o-no-mikoto.

Shinri Sect The Shinri Sect, or the Sect of the Reasons of the Gods, was founded by Tsunehiko Sano (1834-1906). In his exposition of the ancestral doctrine, he urges us to honour the spirits of all the heavenly gods and the natural reason inherent in all things, and thereby to find the way to faith.

Konko Sect The founder of this sect was a farmer called Bunjiro Kawaté (1814-1883) who became, while alive, Daijin Konko, or the Great God of Golden Lustre by the divine order of the heavenly god he believed in. His main teachings are to pay homage to the God Konjin of north-east, to elucidate the great principles of heaven and earth, to cherish patriotism, and to propagate the idea of oneness of this and the other world, and faith in the reason of life and death.

Tenri Sect This sect, which means the Sect of Heavenly Reasons, was founded by a woman called Miki Nakayama (1798-1887) of Yamato province. She teaches that the gods must be revered, patriotism encouraged, Heavenly Reason and Humanity elucidated, the Emperor honoured, and the Imperial ordinances obeyed. It lays great emphasis on practical discipline, and tells us that eight forms of dust must be swept away, which are: (1) grudging; (2) desires; (3) impure attachment; (4)

hatred; (5) enmity; (6) anger; (7) covetousness; and (8) arrogance.

Oomoto Sect Oomoto-kyo was founded by a woman, Nao Deguchi, in 1892. She was born in 1836 in a little town of Fukuchi-yama, Kyo-to prefecture. It is said that this woman was often possessed by God since 1892, and her principles and teachings were left in "O-Fudé-saki" or sacred creeds written by her own Japanese pen in the dark through a revelation in trance, and were further expounded by Onisaburo Deguchi, whom the believers call "Master." The word "Oomoto" means the "great basis" or "foundation" of the universe. Its four mottoes are: (1) purification of mind and body, (2) unity of social classes, (3) optimism, trusting in God's plan, and (4) progress or improvement of the world. The gist of its teaching is as follows: Complete harmony among men must be the condition for attaining peace and happiness. The bringing about of world union will have to be done by spiritual means and not by political or military methods. Therefore all earnest believers in Christ, Buddha and God the Father should gather together under the holy banner of Peace. It is moreover God's will that his children should unite in one and the same worship. God is the spirit present in everything in the universe and men are the administrators of the world. One of the essentials for attaining a Heavenly Kingdom on earth consists in unselfish toil for the evolution and progress of society. Master Onisaburo Deguchi proposes to realize a new world organization believing in the God, the Heavenly Truth, the Common Way of heavens and earth, and through other diverse means.

This sect is not yet recognized by the Government as a legitimate one,

having only a short history of 40 years, and it is hard to get an accurate number of believers. But it has increased to a considerable number especially after its union with some mystic sects in Manchoukuo and China a few years ago, and there are believers among the peoples not only in the Orient, but also in many of European and American countries. According to the report of the head temple which is now located at Kameoka near Ayabé mentioned above, there are 20 large temples, 17 smaller temples, and 1,700 branch offices, with 6,200 preachers altogether. The number of followers of this sect is roughly estimated at 3,000,000.

Buddhism

It was in the thirteenth year of the Emperor Kimmei (552 A.D.) that Buddhism, first founded in India, came over to Japan after passing through China and Korea. The devotion of Prince Shotoku at the time gave a great impetus to its propagation throughout the country. Six schools of Buddhism, that is, Sanron, Hosso, Jojitsu, Kusha, Ritsu, and Kegon were introduced one after another. In the reign of the Emperor Kwammu (782-805 A.D.), Tendai and Shingon flourished. New schools such as Jodo, Zen, Shin, Nichiren and others then gradually developed. Through these long periods of its history, Buddhism further differentiated itself, owing to differences in the exposition of the doctrines and in the methods of propagation, into many sub-sects. Eleven of the principal sects still in existence are Hosso, Kegon, Ritsu, Tendai, Shingon, Yuzunembutsu, Jodo, Shin, Ji, Zen, and Nichiren; and these eleven are sub-divided into fifty-eight branches. Principal teachings of the eleven Buddhist sects follow:

Hosso Sect This sect was introduced into Japan by Dosho (628-700), a Buddhist priest who went to China in 653 and studied the teachings of this sect under Hsuan-tsang. The main teachings of Hosso are that all sentient beings find Salvation in accordance with the difference in character and endowments, of which five yanias are to be distinguished, that the doctrinal system of this sect and its scriptural texts are in full correspondence with the truth, that as all things are merely manifestations of pure consciousness, there are no real ego-souls and no real objects, and that the great fruit of Bodhi and Nirvana is attainable in and through the reality of the Middle Path which is neither existent nor non-existent.

Kegon Sect Roben (688-776) of Todaiji Temple, Nara, the first propagator of this sect in Japan, learned its doctrines from the Chinese Buddhist priest Dokei who visited Japan during the Tempyo era (729-749). The teachings of this sect are based upon the Kegon Sutra, which says that the ultimate reason of Suchness is absolute and infinite; the Ultimate and the Manifested are mutually related and intimately intertwined; each Manifestation too is so thoroughly and interminglingly related to another Manifestation that between the two there is no wall of individual separation. The teachings of the sect are, therefore, called the Perfect Doctrine. Those who, in accordance with the doctrine, understand the mystery of the mute evolution of the spiritual cosmos, and who practise goodness and are guarded in their conduct, are sure to attain Buddhahood and to realize the Ultimate Reason. The head-temple of this Sect is Todaiji in the city of Nara.

The term "Shinnyo", or tathatva,

which we have translated "Suchness" in the foregoing, is a very comprehensive word, signifying "truth", "reality", or "the first principle of emptiness". The first character, "Shin", means "that which is true without any admixture of error". The second "Nyo", is the same as is usually translated "like". The two taken together have come to mean "the Absolute Itself". There are three main interpretations of it. The Kegon Sect, as one of these interpretations, identifies the absolute and the relative, the noumenal and the phenomenal, asserting that each separate phenomenon, being endowed with the qualities of the Absolute, has unlimited power to produce other phenomena. The doctrine derived from the Kegon Sutra teaches that even a single particle of dust has the manifold, infinite and absolute virtues of all things in the universe, and that so, if a man observes a certain practice, he is at the same time doing all other religious practices.

Ritsu Sect The Ritsu or the Sect of Moral Discipline ("Vinaya" in Sanskrit) was first propagated in Japan by Ganjin (686-763), a Chinese Buddhist priest, who came to Japan during the Tempyo era (729-749). It obtains its name from the Vinaya-pitaka, according to which its followers strictly regulate their daily conduct. It teaches to observe, as ordered by Buddha, all the precepts ("sila" in Sanskrit) such as the Five Precepts, the Eight Precepts, the Six Novitiate Precepts, the Ten Precepts, or the Two Hundred and Fifty Precepts. Toshodaiji in Nara prefecture is the head-temple of this Sect.

Tendai Sect The founder of this sect was Chisha Daishi (537-597) of the Sui Dynasty.

A Japanese priest Saicho (Denkyo Daishi, 766-822) went over to China

in the year 782 during the Yenryaku era, and studied the principles of Tendai there. On his return to Japan, he became the chief exponent of the sect in this country. The teachings of the Tendai Sect are comprised in two divisions, metaphysics and meditation. It critically systematized in its metaphysical part all the teachings of Sakyamuni, drawing a clear line between what is mere expedient and what really represents the spirit of the founder of Buddhism. As the result Tendai has come to consider Sadharma-pundarika Sutra (that is, The Lotus of Good Law) the doctrine of Sakyamuni, in which the reason of his appearance on earth is truthfully explained. The meditation part consists in applying our minds to all that is taught in the Sutra and realizing it in our daily practical life. Ten grades are distinguished in the practice of meditation, while its main object is to put a stop to disturbing thoughts and to get enlightened on the principles of the four classes of Buddhist doctrines. The ultimate end of all this is the realization of the mysteries of the Pundarika. When you perceive that the Hidden and the Manifest are of one and the same essence and realize that state of mind which is known to the Buddhas only and to nobody else, you have the central teaching of Tendai, that is you have attained the final enlightenment in which the spiritual and the material are thoroughly unified.

They have three sub-sects or branches in this sect, each of them having its own head-temple. They are: (1) the Tendai Branch, whose head-temple, Yenryakuji, is situated in Shiga prefecture; (2) the Jimon Branch, which has its head-temple in Onjoji of Shiga prefecture; and (3) the Shinsei Branch, the head-temple of which is Saikyo-

ji of Shiga prefecture.

Shingon Sect The first exponent of this sect in Japan was Kukai (Kobo Daishi, 773-835), who went over to China soon after Saicho, the Japanese founder of Tendai. According to this sect, there are three fundamental conceptions, which are, Substance, Appearance, and Function. The Six Universals—earth, water, fire, air, the void, and consciousness—are Substances. The four systems of Mandala, that is, Great Mandala, Samaya Mandala, Dharma Mandala, and Karma Mandala, are Appearances. The three Secrets—body, words, and mind—are Functions. The Six Universals are the elemental substances of which all things are constituted. They take Appearances, which, though innumerable, can be classified under four headings. The first is the Great Mandala representing all living beings such as Buddhas, Bodhisattvas, Gods, evil spirits or human beings. The second is the Samaya Mandala which consists in Mudras and symbolic instruments of Buddhas, Bodhisattvas, devas, and spirits. The third is the Dharma Mandala containing all the names or titles of the Buddhas and other beings. The fourth and last one is the Karma Mandala in which are represented all the Functions as well as the outward bodily attitudes assumed by Buddhas and other beings. As the six Universals are infinite and mutually intermingle and are most intimately related, so the four Mandalas are also mutually related and intermingled. That is to say, the Buddhas' four Mandalas are also our own just as they are in the Buddhas, and conversely, our own Mandalas are those of the Buddhas. When the four Mandalas or Appearances are symbolized in our bodies and our fingers are "knotted" after the regular formulas, and the mouth recites

the various Mantram and Dharanis, and the mind contemplates the sameness of the mind, Buddha, and all sentient beings, then the Functions of the three Secrets are completed. Let this completion be attained, and we are Buddhas while we are in this material existence.

"Mandala" has a large number of different meanings. It is often applied to concrete objects such as an altar, a platform, a circular plate, a picture, and possibly an image; but it came to have the abstract meaning of "growth", "perfection", or "a complete collection of all virtues."

This sect is sub-divided into eight branches, which are: Koya, Omuro, Daikakuji, Daigo, Toji, Yamashina, Ono, and Senyuji.

Three hundred years after the death of Kukai, the Japanese founder of Shingon Sect, a priest called Kakuban known as Kokyo Daishi (1094-1143), established a new school of Shingon. Under this there are two branches now, one of which is Chizan and other Buzan. The head-temple of the former is Chishaku-in, Kyoto, while that of the latter is Chokokuji (Hasedera), in Nara prefecture.

Yuzu-nembutsu Sect This was founded in 1117 by Ryonin, known as Showo Daishi (1071-1132). Its principal teachings are that as all things are essentially of one nature and intimately related, the virtues of one person must be also those of all others, and conversely; that the merits of the Buddha's name invoked by all earnest hearts will mutually grow, establishing a spiritual communion with one another in a most thorough manner; that therefore the invoking of the Buddha's name and contemplating him, even during this short period of one's earthly life, must bear the great fruit, if it is most sincerely done,

of making us all attain to Buddhahood through the perfection of infinite merits.

The head-temple of this sect is Dainembutsuji of Osaka prefecture.

Jodo Sect The founder of this sect was Genku, known as Yenku Daishi or Honen, (1133-1212), and it was established in 1174. The basis of the doctrines of the Jodo Sect is laid upon the original prayers of Amitabha Buddha. Being convinced of the general sinfulness of human nature, which makes us incapable of enduring all the painful process of self-discipline and self-perfection, Jodo teaches us to throw all our reliance upon the strength of the original prayers of Amitabha Buddha. When we thus, absolutely believing in him, invoke his name with all the sincerity of the heart, we shall be born in future in his Pure Land. The head-temple, Chion-in, is in Kyoto.

One of Genku's disciples, called Shoku (1176-1247), established a new separate school at Nishiyama, which is known as the Seizan Branch of Jodo. This branch is again subdivided into three: (1) Zenrinji, its head-temple bearing the same title, is in Kyoto prefecture; (2) Komyoji; and (3) Fukakusa, Seigwanji, Kyoto, is its head-temple.

Shin Sect Shinran (1173-1262), who is known as Kenshin Daishi, founded the Shin Sect. He was a disciple of Genku, and the main doctrines do not vary so very much from those of his master except in this: that we, the ignorant, have no real existence, and however strenuously we may exert ourselves, we have no "causal germ" in us which will develop into Buddhahood. The priests of the sect can marry and eat flesh. The original prayers of Amitabha in which the invocation of the Buddha's name is highly recommended, testify that the causal germ

of Buddhahood, by virtue of the efficiency of the prayers, will be planted in us, which means that all that is necessary for us to be re-born in the Pure Land of Amitabha is now sufficient and fulfilled.

There are at present ten branches of the Shin Sect: Hongwanji, Otani, Bukkoji, Takata, Kibé, Kosho, Idzumoji, Yamamoto, Seishoji, and Sammonto.

Ji Sect This was first promulgated by Ippen (1239-1289). The principal ideas of the sect are: Life is a frail and impermanent thing, and as every moment of it flits away, every act of ours must be regarded as the last one on earth. When, perceiving the truth of this fact, we do not neglect in every thought of ours to invoke the name of the Amitabha Buddha, we shall surely reach the final blissful state of Buddhahood.

The head-temple, Shojókoji, is in Kanagawa prefecture.

Zen Sect Under this name three Sects are comprised: Rinzaï, Soto, and Obaku.

The Rinzaï Sect of Zen was first taught by Yeisai (1140-1215) who came back from China in 1192. Soto finds its first Japanese exponent in Dogen (known as Jôyô Daisi, 1199-1253) who studied zen in China during the Sung dynasty and returned to Japan in 1234. Obaku was introduced to Japan by a naturalized Chinese priest Yin-gen (1592-1673) in 1653.

The Zen Sect teaches the doctrine which is known only to the Buddhas and the transmission of which takes place only from one mind to another. It transcends logic and objective understanding. We do not have to purify ourselves from sins, nor is it necessary to seek after supreme knowledge. The ultimate truth is not in mere learning, thinking, or in discipline. It is above

doctrines, meritorious deeds, and also above any special attainment. Zen teaches us to abide right in the truth and reality of life, every act of which will then reveal thousands of Samadhis. Whether lying or sleeping, whether drawing water or hewing wood, every movement grows full of significance. That is why Zen sums up its teachings in the following four phrases: "No reliance on word or letter; a special transmission outside of the scriptural doctrines; a direct pointing at the soul of man; and attainment to Buddhahood by seeing into one's own mind."

There are fourteen branches in the Rinzaï Sect: Kenninji, Kenchoji, Tofukuji, Engakuji, Nanzenji, Daitokuji, Myoshinji, Tenryuji, Yei-genji, Shokokuji, Hokoji, Buttsuji, Kokutaiji, and Kogakuji. The Soto Sect has two head-temples, Yei-heiji, and Sojiji. Obaku is undivided, and its head-temple is Mampukuji, Uji.

Nichiren Sect This was founded by Nichiren (1222-1281) on the merits of the Saddharma-pundarika Sutra. The life of the Sect is in the seven syllables of "Na-mu-myo-ho-ren-gé-kyo," which is called "Daimoku," or a kind of theme. As this is the title of the Sutra revealing the absolute oneness of all opposites, even evil-hearted ones will attain to Buddhahood if they recite it in sincerity, and along with it all the ten universes will be equally benefited.

This sect is sub-divided into nine branches: (1) Nichiren-shu (the head-temple, Kuonji, is in Yamana-shi prefecture); (2) Hommon-shu, (Hommonji at Ikegami and six other temples in Shizuoka prefecture are its head-temples); (3) Hokké-shu, (its head-temple, Honjoji, is in Niigata prefecture); (4) Kempon-hokké-shu, (Kochoji and other four temples in Shizuoka prefecture

are its head-temples); (6) Hommyo-hokké-shu, (its head-temple is Honryuji, Kyoto); (7) Nichiren-seishu, (its head-temple is Daisekiji in Shizuoka prefecture); (8) Nichiren-shu-fujufusé-ha, (its head-temple is Myokakuji in Okayama prefecture); and (9) Nichiren-shu-fujufusé-komon-ha, (the head-temple, Honkakuji, is also in Okayama prefecture).

Christianity

Before the Restoration Christianity was first introduced into Japan by Francis Xavier, a Jesuit Father, who came to Kagoshima in 1549. This was the time when Nobunaga Oda was at the height of his power, and he gave great encouragement to the spread of the Christian religion. Hideyoshi Toyotomi, his successor, too, was kindly disposed towards it. Combined with the devout and untiring work of the missionaries, this attitude on the part of the authorities made it possible for Christianity to gain followers with wonderful rapidity. Their number is reported to have run into hundreds of thousands.

Hideyoshi, however, changed his policy later on. Christianity was interdicted, its followers were persecuted, and the missionaries had to leave the country. When the Tokugawa Shogunate was established, still stricter measures were adopted, especially after the Shimabara Rebellion in 1637. Christianity had now no hope of being revived under the rigorous government policy of exclusion. The only port open to foreigners was Deshima, Nagasaki, where the Dutch traders were allowed to carry on their business.

The American envoy, Commodore Perry, came to Uruga in 1853, demanding a friendly commercial treaty with his country. The Shogunate government granted this request in

1854 not only to America, but to Russia, England, France and Holland, and in the year following the three ports of Kanagawa, Nagasaki, and Hakodaté were opened to foreign trade. A party of American missionaries were the first to avail themselves of the opportunity thus offered to them. Among them were the Rev. J. Liggins, of the Protestant Episcopal Church of the United States of America, and the Rev. M. C. Williams, who came to Nagasaki in 1859. These were soon followed by Dr. G. F. Verbeck, of the Presbyterian Church (1859), and J. Goble, of the American Baptist Missionary Society (1860), and others. In 1864, the Rev. J. H. Ballagh, of the Dutch Reformed Church, came from America, and in the following year Dr. Thompson, of the American Presbyterian Church, reached here as a missionary.

In 1869, the Rev. D. C. Greene made Kobé the basis of his mission work representing the American Board of Commissioners for Foreign Missions. The first woman missionary, Miss Kidder, of the Dutch Reformed Church, arrived here in the same year. In 1873, the American Methodist Episcopal Church and the Canadian Methodist Church sent their missionaries, and in 1876 the Evangelical Association of North America started its propaganda work.

The Restoration When the feudal system of Tokugawa collapsed and the Imperial House was restored to power, the edicts prohibiting "Kirishtan" were withdrawn in the sixth year of Meiji (1873), and the missionaries were officially permitted to establish schools, to publish religious tracts, and to preach their doctrines in all the sea-ports open for foreign trade. In 1872, the Rev. Brown and Rev. Ballagh of Yokohama established, aided by their young fol-

lowers, a Christian church to be known as the Yokohama Yaso Kyokai, which was the beginning of the Union Church. In the following year a sister church was organized at Tsukiji, Tokyo. This was the first Christian church in the metropolis. In 1876 Nagasaki saw another church established. Later all these churches were federated in the name of the United Church of Christ in Japan. This was the origin of the Nihon Kirisuto Kyokai. The Rev. D. C. Greene who started his mission work in Kobé established a church known as the Settsu First Christian Church. This was the first Congregational Church ever organized in Japan, and developed into the present Kobé Kumiai Kirisuto Kyokai. In the same year the Umemoto-Cho Church came into existence in Osaka, which later came to be called the Osaka Kumiai Kirisuto Kyokai. Some time before this, thirty-five students of the Kumamoto Foreign School, who were converted to Christianity under the influence of their American teacher, Captain Janes, came up to Kyoto, and entered the Doshisha College just established by Jo Nee-shima, who had lately returned from America. After their graduation from the college they grew active as propagators of Christianity, and built up the foundations of the Nihon Kumiai Kirisuto Kyokai. In 1872, the Rev. Loomis and Rev. Ballagh opened a Bible class for young men in the above-mentioned Church at Yokohama every Sunday afternoon. In 1873, a Congregational Missionary, Dr. Berry, set up in Kobé a Sunday-school, probably the first one conducted in the Japanese language. As to the vernacular translation of the Bible, in which Dr. Brown had been engaged for some time, the work progressed rapidly early in the Meiji era, and the New

Testament was completed in December, 1879, and the Old Testament in 1886. The chief translators were Brown, Verbeck, Greene, and Mac-lay, while among the native assistants were Takakichi Matsuyama, Masatsuna Okuno, Masahisa Uyemura, Kajinosuké Ibuka, Goro Takahashi, and others.

Y.M.C.A. In 1880, the Young Men's Christian Association was first organized in Tokyo, and among the leaders must be mentioned Hiro-michi Kozaki, Kajinosuké Ibuka, Masahisa Uyemura, and Yoshiyasu Hiraiwa.

In 1870, Miss Kidder opened a school for girls in Yokohama. This was the first institution of the kind in Japan, and from it developed the present Ferris School for Girls. Four years later another girls' school, Kobé Jo Gakuin, was erected in Kobé by the Congregationalists.

According to the statistics of 1882, there were in that year 145 foreign missionaries, 93 organized churches, 13 of which were self-supporting, 4,367 adult members, 39 mixed schools, 15 girls' schools, 9 middle schools, 7 theological colleges, 109 Sunday schools, 49 ordained preachers, 100 assistant preachers, 37 Bible women, and 5 hospitals.

In 1883, the Church of Christ sent missionaries to Japan, and in 1885 the Presbyterian Church of the United States of America did the same. The American Society of Friends, and the Evangelical Protestant Missionary Society of Germany and Switzerland also dispatched their agents. In 1886, missionaries came from the Methodist Episcopal Church, South, and in Osaka a hall was set up for the Young Men's Christian Association. In 1887 the missionaries and representatives of the Episcopal Church of England and America had a conference, the result of which was the

organization of the Holy Catholic Church of Japan. In the same year, the American Unitarian Association sent its representative, the Rev. A. M. Knapp, and following him came the Rev. Clay McCauley.

Freedom of Faith On February 11, 1889, the Constitution was promulgated, and freedom of faith was definitely guaranteed by Article XXVIII. This year, L. D. Wishard, International College Secretary of the Young Men's Christian Association, came, and planned out a summer school for Bible study for the first time in this country. Since then every summer sees its work carried on. The United Church of Christ in Japan changed its name into the Church of Christ in Japan, compiled a fundamental law, settled on its creeds, and at last became an independent organization. Soon after, they put up a Board of Missions and made progress towards financial independence.

In 1890, the Universalist General Convention of America sent its missionaries. In 1895 officers of the Salvation Army came, and Gumpei Yamamuro joined it, and they at once started on their propaganda work. In the same year, the United Brethren in Christ started a mission.

While the foreign missionaries, up to 1901, had not been allowed to hold land in Japan, which greatly inconvenienced their activities, the Home Minister this year gave permission to the Baptist Missionary Society in Japan to organize a corporation which could hold and manage lands and buildings for missionary purposes.

In 1905 the Japanese Congregationalists planned to be financially independent of the foreign mission at the end of this year, in which they later succeeded.

In 1907 representatives of the Methodist Church of Canada, the

Methodist Episcopal Church, South, and the Methodist Episcopal Church convened in Tokyo with a view to effect a confederation of the three denominations in Japan. The First General Conference of the Methodist Church of Japan thus took place, and Yoichi Honda was chosen to be its first Bishop and was duly consecrated. In the same year F. L. Brown, of the International Sunday School Association, arrived and the outcome of this visit was the organization of the Sunday School Association of Japan, marking an epoch in the history of the Sunday School of the Christian Church. The conference of the World's Student Christian Federation was also held this year in Tokyo, in which 160 foreign visitors took part representing twenty-five nations. This was the first world's convention of any kind in Japan.

Roman and Greek Churches The Catholic Church has been active ever since the opening of the sea-ports for foreign trade. The missionaries from the Société des Missions Etrangères in Paris are working all over the country, which is now divided by them into seven districts: Tokyo, Osaka, Hakodaté, Nagasaki, Shikoku, Niigata, and Sapporo. At present a Bishop resides in Tokyo, and in Shikoku the Dominicans from Spain are active, while in Hokkaido the Franciscans have found their principal fields of activity, where there are two Trappist monasteries. The Jesuit missionaries reached here again in 1908, but instead of following up their predecessors' work, they have now a college established in Tokyo and concentrate their efforts on education. Besides the Jesuits, those that are chiefly engaged in educational work are Missionnaires de Marie, Société des Soeurs de Saint Paul, Société de Sacré Coeur and others.

In the prefecture of Nagasaki where the Catholics have been at work for the last three hundred years, though secretly, they are still in the ascendancy.

The activities of the Greek Church centered in the person of the Russian priest Father Nicolai, who came to Japan first as priest attached to the Russian consulate in Hokkaido in 1859. He reached Japan after crossing Siberia, and while settling in Hakodaté, he baptized Takuma Sawabé and two other Japanese. In 1872 he came to Tokyo where he began missionary work. In 1884 he started to build a fine large church in Tokyo, which was completed in 1891. The church was regarded at that time as the greatest and finest building of this sort throughout Japan. The internal disturbances in Russia which followed the great world war made it very difficult to maintain this beautiful edifice, until in 1919 the followers succeeded in organizing an independent church known by the name of the "Orthodox Church of Christ in Japan."

State Regulation of Religions

Supervising Office A wholesale change of the governmental system took place at the time of the Restoration, and in the third year of Meiji (1870) the Mimusho was established to take care of various affairs of the state, such as general home affairs, communications, etc. In the fourth year, this office was abolished, and the office of religious affairs was transferred to the Finance Department. With the establishment of the Kyobusho, or Department of Religions, in 1872, the shrines and temples were placed under the care of the new office. Then the Government appointed Shinto and Buddhist priests as official religious instructors who were to preach and educate the people according to the

moral principles as follows: (1) to cherish reverence for the gods and the spirit of patriotism; (2) to elucidate Heavenly Reason and the principle of humanity; and (3) to honour and pay homage to the Emperor and to observe the Imperial ordinances. Afterwards the Kyobusho was abolished too, and all the business conducted by this office up to that time was transferred to the Department of Home Affairs which was established in 1873. The official appointment of religious instructors (Kyodo-shoku) was discontinued in 1884, and the business of appointing preachers was entrusted to the head-priests (Kwancho) of the various religious sects, together with the right of selecting the resident priest (Jushoku) for the temples under their jurisdiction. Each sect was, moreover, given the power of managing its own affairs under the supervision of the Government. Religion was thus separated from politics. With the promulgation of the Constitution on the 11th of February in the 22nd year of Meiji (1889), the principle of religious freedom was firmly established. In April, 1900, the former Bureau of Shrines and Temples was divided into two sections, i. e., the Bureau of Shinto Shrines and the other the Bureau of Religions. All administrative policy concerning the Shinto shrines is now in charge of the former and is entirely independent of the policy governing religions. The Bureau of Religions was transferred to the Education Department in 1913, and is under its jurisdiction at present.

Administration of Religions At present, there are three kinds of religions in Japan. These religions are dealt with by the Government each in a different way, because Japan is still without specific laws defining the political status of these

religions in connection with the State, though the principle of the administrative policy can recognize no such difference, as the Constitution guarantees freedom of faith. The Government, however, finds it natural not to mete out a uniform method of supervision over all these religions; for Buddhism, which has been in very close relation to the State and society for over one thousand years, and Shinto, which is the national cult of Japan, and Christianity, which was introduced to this country only half a century ago (putting aside the fact that it was once in this country a few centuries ago) can hardly be treated in a uniform method with satisfactory results.

From a practical point of view, the religious denominations which are officially recognized and come under the proper jurisdiction of the Bureau of Religions at present are Shinto and Buddhism. The denominations of Shinto are called "Kyoha" and those of Buddhism "Shuha." A religious order is a congregation of preachers and adherents following a definite system of creeds having temples or preaching halls from which their religious movements issue. Shinto and Buddhist Sects have not yet special regulations concerning cases of secession or incorporation, inasmuch as they are not allowed to make such regulations without the approval of the Education Minister. But affairs concerning the inner policy of the various sects are generally left to their own self-government, though the religious sects concerned are required by the State to compile fundamental rules defining their administrative policies approvable by the Education Minister.

Alteration of Rules The approval of the Education Minister is also required when they abolish or alter

these rules. Each sect, Shinto or Buddhist, is required by the Government to select a head-priest, or Kwancho to govern and represent that sect. The appointment of a head-priest also requires the official approval. In the compilation of a constitution for each sect they have to define the following particulars: (1) the fundamental law, (2) the status of the preacher and his official title, and (3) the grades of preachers and their appointment and dismissal. These particulars are to be regulated by each Shinto head-priest. Meantime, each Buddhist head-priest is to regulate the following particulars: (1) the fundamental law, (2) rules concerning the management of temples, (3) the status of the priest and preacher and their official titles, (4) the appointment and dismissal of the resident priest, or Jushoku, of a temple, and grades of preachers, and their appointment and dismissal, and (5) the preservation of old historical documents, treasures, and properties belonging to the temples.

Besides thus defining the particulars as stated above, the constitution of each sect has to regulate, through practical necessity various affairs concerning its self-government. It must define, for instance, the functions and powers of the head-priest and the method of election; the organization and power of the council; functions of various officers; financial affairs; organization of a temple or a preaching hall; qualifications of a resident priest; affairs relating to the personnel, such as conferring honours or giving punishments; missionary work; education; and other functional activities. Needless to say, the head-priest governs his own sect according to the articles of this law. In short, the work of the Government in the matter of supervision over

In the prefecture of Nagasaki where the Catholics have been at work for the last three hundred years, though secretly, they are still in the ascendancy.

The activities of the Greek Church centered in the person of the Russian priest Father Nicolai, who came to Japan first as priest attached to the Russian consulate in Hokkaido in 1859. He reached Japan after crossing Siberia, and while settling in Hakodaté, he baptized Takuma Sawabé and two other Japanese. In 1872 he came to Tokyo where he began missionary work. In 1884 he started to build a fine large church in Tokyo, which was completed in 1891. The church was regarded at that time as the greatest and finest building of this sort throughout Japan. The internal disturbances in Russia which followed the great world war made it very difficult to maintain this beautiful edifice, until in 1919 the followers succeeded in organizing an independent church known by the name of the "Orthodox Church of Christ in Japan."

State Regulation of Religions

Supervising Office A wholesale change of the governmental system took place at the time of the Restoration, and in the third year of Meiji (1870) the Mimbusho was established to take care of various affairs of the state, such as general home affairs, communications, etc. In the fourth year, this office was abolished, and the office of religious affairs was transferred to the Finance Department. With the establishment of the Kyobusho, or Department of Religions, in 1872, the shrines and temples were placed under the care of the new office. Then the Government appointed Shinto and Buddhist priests as official religious instructors who were to preach and educate the people according to the

moral principles as follows: (1) to cherish reverence for the gods and the spirit of patriotism; (2) to elucidate Heavenly Reason and the principle of humanity; and (3) to honour and pay homage to the Emperor and to observe the Imperial ordinances. Afterwards the Kyobusho was abolished too, and all the business conducted by this office up to that time was transferred to the Department of Home Affairs which was established in 1873. The official appointment of religious instructors (Kyodo-shoku) was discontinued in 1884, and the business of appointing preachers was entrusted to the head-priests (Kwancho) of the various religious sects, together with the right of selecting the resident priest (Jushoku) for the temples under their jurisdiction. Each sect was, moreover, given the power of managing its own affairs under the supervision of the Government. Religion was thus separated from politics. With the promulgation of the Constitution on the 11th of February in the 22nd year of Meiji (1889), the principle of religious freedom was firmly established. In April, 1900, the former Bureau of Shrines and Temples was divided into two sections, i. e., the Bureau of Shinto Shrines and the other the Bureau of Religions. All administrative policy concerning the Shinto shrines is now in charge of the former and is entirely independent of the policy governing religions. The Bureau of Religions was transferred to the Education Department in 1913, and is under its jurisdiction at present.

Administration of Religions At present, there are three kinds of religions in Japan. These religions are dealt with by the Government each in a different way, because Japan is still without specific laws defining the political status of these

religions in connection with the State, though the principle of the administrative policy can recognize no such difference, as the Constitution guarantees freedom of faith. The Government, however, finds it natural not to mete out a uniform method of supervision over all these religions; for Buddhism, which has been in very close relation to the State and society for over one thousand years, and Shinto, which is the national cult of Japan, and Christianity, which was introduced to this country only half a century ago (putting aside the fact that it was once in this country a few centuries ago) can hardly be treated in a uniform method with satisfactory results.

From a practical point of view, the religious denominations which are officially recognized and come under the proper jurisdiction of the Bureau of Religions at present are Shinto and Buddhism. The denominations of Shinto are called "Kyoha" and those of Buddhism "Shuha." A religious order is a congregation of preachers and adherents following a definite system of creeds having temples or preaching halls from which their religious movements issue. Shinto and Buddhist Sects have not yet special regulations concerning cases of secession or incorporation, inasmuch as they are not allowed to make such regulations without the approval of the Education Minister. But affairs concerning the inner policy of the various sects are generally left to their own self-government, though the religious sects concerned are required by the State to compile fundamental rules defining their administrative policies approvable by the Education Minister.

Alteration of Rules The approval of the Education Minister is also required when they abolish or alter

these rules. Each sect, Shinto or Buddhist, is required by the Government to select a head-priest, or Kwancho to govern and represent that sect. The appointment of a head-priest also requires the official approval. In the compilation of a constitution for each sect they have to define the following particulars: (1) the fundamental law, (2) the status of the preacher and his official title, and (3) the grades of preachers and their appointment and dismissal. These particulars are to be regulated by each Shinto head-priest. Meantime, each Buddhist head-priest is to regulate the following particulars: (1) the fundamental law, (2) rules concerning the management of temples, (3) the status of the priest and preacher and their official titles, (4) the appointment and dismissal of the resident priest, or Jushoku, of a temple, and grades of preachers, and their appointment and dismissal, and (5) the preservation of old historical documents, treasures, and properties belonging to the temples.

Besides thus defining the particulars as stated above, the constitution of each sect has to regulate, through practical necessity various affairs concerning its self-government. It must define, for instance, the functions and powers of the head-priest and the method of election; the organization and power of the council; functions of various officers; financial affairs; organization of a temple or a preaching hall; qualifications of a resident priest; affairs relating to the personnel, such as conferring honours or giving punishments; missionary work; education; and other functional activities. Needless to say, the head-priest governs his own sect according to the articles of this law. In short, the work of the Government in the matter of supervision over

the various sects of Shinto and Buddhism, is to indicate to them what is needed for that kind of work prior to the compilation of their fundamental laws, and to give its official approval when these laws are prepared, and then to see if all the provisions are carried out satisfactorily.

While all the Shinto and Buddhist sects are thus placed under the direct supervision of the Government as far as such fundamental affairs as are mentioned above are concerned, they are left to the care of the local governments concerning the practical functionings of their propaganda work. When the Shintoists or Buddhists want to build their temples or preaching halls, for instance, they must approach the local governments for permission. As Buddhist temples are, on account of their historical significance, regarded as legal persons, the use of the temple grounds, changes in their acreage, cutting down of the trees, and disposition of immovable property, temple treasures, historical documents, or fundamental funds, etc. all require the approval of the local governor concerned.

Special Treatment of Christianity
The Government gives no official recognition as regards the Christian denominations, because they, as such, stand in no legal relationship to the Government. In the case of Christianity, therefore, the official supervision does not go further than looking after its missionary activities, selection of preachers, establishment of churches or preaching halls, etc. The Ordinance No. 41 of the Education Office issued in 1899 requires that those who wish to engage in missionary work notify the local governor of the name of their religion and methods of preach-

ing with their personal history. When they want to build churches or other establishments for religious purposes, they have to approach the local authorities for permission, stating details of these establishments, methods of management and maintenance, qualifications of the preacher, and the process of selecting such preacher. In other words, the Government has special provisions for the Shinto and Buddhist denominations because of their peculiar historical status, while it is contented with being a mere overseer as regards Christianity. As far as their religious functions are concerned, however, the Government makes no distinction whatever between Shinto and Buddhism and Christianity. All religious sects are left to themselves unmolested as long as they do not disturb the peace of the country or practise immoralities in connection with the propagation of their doctrines and the carrying out of their respective religious rituals.

Educational Institutions There are a large number of educational institutions established by various religious sects for the purpose of bringing up properly qualified preachers. Like other professional or general educational establishments, these religious schools are under the supervision of the Education Minister. Meantime, charity works such as reformatories, dispensaries and other organizations financed by the religious bodies are placed under the jurisdiction of the Home Minister similarly with activities maintained by unreligious bodies in general.

Religious Statistics

The following are the statistics of preaching halls, preachers and adherents of various religious sects and denominations:

SECTARIAN SHINTO

(end of 1932)

Denomination	Preaching Halls	Preachers		Total	Adherents (in 1930)
		Men	Women		
Shinto	625	3,388	682	4,070	1,206,778
Kurozumi	454	3,883	516	4,399	551,236
Shusei	252	1,711	251	1,962	411,801
Taisha	204	2,913	144	3,057	3,343,477
Fuso	474	4,161	1,351	5,512	486,906
Jikko	257	1,893	624	2,517	403,519
Taisei	207	2,181	462	2,642	728,373
Shinshu	332	2,398	826	3,224	2,039,881
Ontaké	755	6,506	2,434	8,940	733,647
Shinri	291	1,352	263	1,615	1,412,332
Misogi	36	1,384	198	1,582	337,288
Konko	1,121	2,023	860	2,883	747,869
Tenri	9,763	36,998	23,128	60,126	4,118,238
Total	14,771	70,791	31,738	102,529	16,525,840

Note: The "kancho" or the executive head of each denomination is not included in the number of preachers.

BUDDHISM

(end of 1932)

Denomination	Temples	"Kanchó"	Priests		Total	Adherents (in 1930)
			Men	Women		
Tendai	4,504	3	9,306	1,458	10,764	2,134,369
Shingon	12,095	10	12,835	654	13,489	8,526,867
Jodo	8,314	4	6,694	852	7,546	3,997,875
Rinzai	5,977	14	4,878	246	5,124	2,367,977
Soto	14,229	1	12,921	—	12,921	6,859,324
Obaku	523	1	415	24	439	111,841
Shin	19,716	10	28,095	10	28,105	13,259,890
Nichiren	5,028	9	7,091	332	7,423	3,315,359
Ji	491	1	438	1	439	383,171
Yuzunenbutsu	357	1	271	24	295	133,493
Hosso	41	1	93	9	102	14,772
Kegon	27	1	24	—	24	22,869
Others	49	—	—	—	—	—
Total	71,351	56	83,061	3,601	86,671	41,127,307

Note: There were 34,940 minor temples in addition to the number given above.

CHRISTIANITY

(end of 1933)

Denomination	Church and preaching stations	Preachers		Total	Adherents
		Men	Women		
Roman Catholic (1932)	238	—	—	274	191,008
Greek Orthodox	184	476	0	60	39,936
Presbyterian	442	60	25	501	49,717
Congregationalist	188	170	19	189	31,484
Episcopal	246	329	139	468	26,618
Baptist	80	72	15	87	7,416
Methodist	347	417	108	525	33,180
Salvation Army (1934)	303 (corps)	—	—	561	15,100
Holiness	456	270	147	417	19,357
16 other denominations	304	329	67	396	25,628

1934-35 Religious Activities The Broadcasting Corporation of Japan inserted religious lectures in the morning programme, which stimulated religious interest among the people. Buddhist monks and preachers drew adherents in great numbers, specially in Tokyo and Osaka. Christianity seems, on the contrary, to be on the standstill except Methodist Churches, largely due to the nationalistic trend of thought prevailing in Japan for recent several years. Dr. John R. Mott paid a visit to Japan in March, 1935, and held meetings and conferences but evidently with little results.

The second North Pacific Buddhist Young Men's Union Meeting was held four days beginning with July 18, 1934, in the new edifices of the Tokyo Temple of the Homba Hongwanji. All the nations and territories in and around the North Pacific Ocean were represented by over 600 delegates of B. Y. M. A. in China, India, Singapore, Ceylon, Siam, Burma, the South Sea Islands, Formosa, Chosen (Korea), Japan proper, Manchoukuo, Hawaii, and Canada. Important resolutions which were passed by unanimous vote were (1) Promotion of international peace, (2) Equality of all races, (3) Organization of a Pan-Pacific Buddhist Young Men's Union, and (4) Purchase and protection of the sacred ground Buddha-Kaya, where was situated the "desert" for the founder of Buddhism.

The Homba Hongwanji

In order to give an idea of Japanese religious bodies the Homba Hongwanji is taken as an instance, where description follows:

History The Shin Sect sprang out of the Tendai Sect in the 13th century. The Founder Shinran (1173-1262) was a disciple of Genku of Tendai, whose head temple was in

Mt. Hiyéi, Kyoto. Shinran, when he was in death bed, gathered adherents and disciples and said, "If one of you offer thanks to Amida-Buddha, you may think that another man is sitting beside you; if two of you thank him, you may think that there are three, for I, Shinran, am always with you." It required, a long time before the adherents of Shinran found a home and got their faith recognized as an independent sect. In 1272 or 10 years after the death of Shinran a small hall was erected by his mausoleum at Ohtani, Higashiyama, Kyoto, with his image enshrined in it, and the Emperor Kaméyama gave it the title, "Kuon Jitsujo Amida Hongwanji," from which originated the common name "Hongwanji". Kakushin-ni or Iyahimé, youngest daughter of the founder, was made the guardian of the temple. The Hongwanji was still under the control of the Tendai, the mother sect.

The man who succeeded in establishing an independent sect of Shin on the foundation of Shinran's faith was the third abbot, Kakunyo. This able monk let people know that the Hongwanji maintained an independent order, distinct from all other sects, the leadership of which was to be held in strict succession by descendants of Shinran, both in faith and in blood. He went about in evangelical trips over various provinces where the disciples of Shinran were scattered and got them into the Hongwanji Order.

One who gave a great impetus to the development of the Hongwanji was Rennyo, the 8th abbot. Rennyo was born in February, 1415, and in 1457 he succeeded his father as abbot. Up to that time he had devoted his entire energy to the study of the doctrines of Buddhist sects, and realized that the doctrines of the Shin Sect were admirably suited to

the common people. He, therefore, began to write "Epistles", expounding the teachings and faith of Shinran in a most plain language, so that even the simplest seekers of the truth could comprehend what he wished to convey. The plain epistles produced the desired effect and increasing numbers of pilgrims began to pay a visit to the founder's shrine at Ohtani. This growing popularity of Rennyo, however, provoked an envious attention of the monks of Mt. Hiyéi, whose fanatic hatred finally induced them to destroy the Ohtani temple by fire in 1465.

In 1480 Rennyo built a temple at Yamashina near Kyoto, where he died in 1499.

In 1532 the Yamashina temple was again burnt in a persecution and Sho-nyo, the abbot, carrying the image of the founder with him, was compelled to retire to the branch temple at Ishiyama, Osaka, which Rennyo had erected in 1496.

The compounds of the Ishiyama temple were in such a favourable location for building a castle that Nobunaga Oda wanted the site for himself and hurled his strong army against the Hongwanji. For the ensuing ten years the Hongwanji held out against the war-lord, but the abbot Kennyo, in obedience to the Imperial order, made terms of peace with Oda and removed his temple to Saginomori in the province of Kii.

In 1591 Kennyo received from Hidéyoshi Toyotomi a tract of land, about 350 acres, at Nishi-Rokujo, Kyoto, for the re-establishment of the Hongwanji. Kennyo died in 1592 and was succeeded by the younger son Junnyo. The older son Kyo-nyo had been passed over because of his disobedience of his father Kennyo's command to leave Ishiyama after the peace making with Oda.

Aware of the ever-increasing pow-

er of the Hongwanji, the Tokugawa Shogunate tried to split it and, taking advantage of the above incident, it gave Kyo-nyo a site for a new Hongwanji at Karasumaru, Kyoto. This was the origin of the Higashi (east) Hongwanji. The Hongwanji at Nishi Rokujo naturally began to be called the Nishi (west) Hongwanji. Another name for the former is the Ohtani-ha Hongwanji and that for the latter the Homba or Hongwanji-ha Hongwanji, signifying legitimacy.

Present Status The number of branch temples, special branch temples, temples under its control and their branch preaching places of the Homba Hongwanji is about 13,000. A rough estimate puts the number of monks at 30,000 and that of adherents at 3,000,000. Several years since the system of priestesses was instituted. Different from ordinary nuns they wear their hair, which can be done up in any manner and enjoy the same standing and rights with monks.

Administration The temple has its own constitution and administration. Its hereditary head is called Hossu or the head of the faith, and is responsible to the Government for religious matters in his sect. He is a pope of Buddhism and practical handling of the affairs in and for the sect is entrusted to executors in the central administration.

The Shikko or executors are three, one of them being the Shikko-cho or the head-executor who corresponds to the premier. The organs of government are as follows:

The Executive or cabinet. The privy section, the legislative section and the intelligence section come under this.

Cultural bureau. Preaching section, educational section and social section belong to the bureau.

Business bureau. Business section and foundation section.

Financial Bureau. Treasury section, discipline section and pilgrim section.

Service bureau. Ritual section and secretary section.

Reward bureau.

Judicial bureau.

The hossu household bureau.

There is a council called "Shuyé" or congregation, which consists of 30 (minimum)—66 (maximum) members. In 1933 the number was 63, 15 of whom were appointed by the hossu and 48 chosen by the monks as their representatives. Their function is to give advice and consent to the pending rules and pass on the budget.

The Budget The 1933-1934 budget of the Homba Hongwanji is approximately ¥2,166,000. The expenditures classified are given below:

1933-1934 BUDGET OF HOMPA
HONGWANJI

(In yen)

Ordinary accounts:	
Service bureau	43,927
Cabinet	39,887
Cultural bureau	267,277
Business bureau	64,408
Financial bureau	141,887
Reward bureau	293
Judicial bureau	5,841
The hossu household bureau	100,000
Miscellaneous	39,101
Reserve fund	40,000
Total	742,621
Special accounts:	
Ryukoku University	202,738
Middle Schools	143,499
Girls' Schools	190,973
Special meetings	501,000
Other 14 special accounts	384,953
Total	1,423,163
Grand total	2,165,784

The Hongwanji has several endowment funds of which important ones in 1933 follows:

Ryukoku University endowment fund	¥1,089,709
Hongwanji supporting society fund	1,640,573

Social work endowment fund	3,755,724
Total	3,755,724
Paid-up	1,122,583
Head temple and temples mutual help endowment fund	1,570,797

Propagation Buddhism has no Sunday services, except perhaps holding Sunday Schools. The propagation of the faith is done through sermon or ritual meetings in the temples, missionaries allotted to specified districts, travelling missionaries, and preaching among convicts, factory workers, Government officers, workers in private firms, and soldiers. The propagation activities cover not only the Empire, but the pacific coasts of the U. S. A., Vancouver, the Hawaiian Islands, the South Seas, Singapore, Sumatra, China, the Maritime Province of the U. S. S. R.

Young Men's and Young Women's Buddhist Associations hold large membership and are active in the propagation of the faith. There are also the Factory Y. M. A. and The Railway Friends' Association, similar in purpose to the foregoing associations.

The Hongwanji Sunday Schools have over twenty-years' history and the numbers of schools and pupils in 1931-1932 were as follows:

	Sunday Schools	Pupils enrolled
The Empire	1,882	380,845
The U.S.A.	45	7,669
Hawaiian Islands	134	14,406
South Seas	3	—

Educational Work There are 63 schools established by the head temple and educational bodies or individuals of the sect in Japan proper. The statistics of these schools in 1931 or 1932 follow:

	Schools	Students or pupils
Schools established by the Head Temple:		
Ryukoku University	1	1,197
Woman's Colleges	3	815
Middle Schools	3	2,019
Girls' Schools	4	2,853
Seminary	1	203
Kindergarten nurse school	1	50
Schools established by educational bodies or individuals		
Middle Schools	4	762
Commercial School	1	764
Girls' Schools	32	7,645
Seminaries	16	964
Total	63	17,272

Social Work The Homba Hongwanji plays an important part in social welfare work in the country.

The Social Section of the Cultural Bureau expends about ¥52,000 annually, largely for the researches and improvements of their social work. The number of institutions for social work in 1932 was 586:

Kind of work	Number of institutions
Nursery work	
Day nursery	133
Special nursery (open only when mothers are specially busy on the farm, etc.)	186
Economical protection	18
Poor relief	25
Medical	7
Judicial protection	92
Social enlightenment	112
Settlement work	13
Total	586

CHAPTER XXX

SOCIAL PROBLEMS AND SOCIAL WORKS

Social Problems

These may in the main be summarized under 5 headings :

(1) Poverty and Its Relief. In Japan the gap between rich and poor may not be quite so great as in some Western countries, but nevertheless it exists, and tends in some ways to become greater with the industrialization of the country. Poor-relief is one of the greatest problems of the authorities, for it must include the city slums, the beggars, and the increasing numbers of peasant paupers. Though estimates vary, the number of "poor" may be placed at about 2% of the population, and of them probably some 8% are destitute.

(2) Condition of Labourers. This, with the attendant matters of pay and hours, especially in relation to international labour conferences and agreements, calls for careful Government handling: the protection of child and woman labour particularly so.

(3) Position of Women. The protection of women and elevation of their social and legal status is in some ways especially an Oriental problem. Socially, their position has been much raised of late years, till now it approximates nearly to that of men; but the old discriminative laws enacted in the Meiji Era still handicap women in many respects. In regard to the age-old question of licensed prostitution there has been little improvement; statistics show, indeed, a slight retrogression, for the numbers of women involved has

increased, owing perhaps to the recent financial depression.

(4) Public Health. In a country which carries such a dense population this is a matter of vital importance. Medical science in Japan is second to none in the world with regard to its recent progress and present position, her doctors and surgeons having made contributions of inestimable value to mankind, and in some cases paid for them with their lives. But difficulties attend its application. The cost of treatment and of drugs and chemicals is high, and suggestions have been made for the nationalization of all medical business in order to help the poor.

(5) Thought Guidance. The guidance of the people's thought through the eddying turmoil of modern ideas and theories, from Marxism to Fascism with all intermediate shades, and the handling of practical matters connected therewith, are of the very gravest concern to this country, and are engaging the deepest attention of the authorities. The final settlement of these matters must be largely dependent on that of the preceding problems, though some consider that more radical and direct action is necessary for its attainment than merely the so-called social work. But inasmuch as most of these movements, radical or reactionary, include schemes for the sudden overthrow of the existing social system, neither the Government nor the people at large can regard them with unconcern.

The fourth problem, relating to Public Health, is specially treated

in Chapter XXXII, while further reference is made to the others in the chapter on Labour.

Social Work

Before Meiji Era Prince Shotoku, Regent, established, in 593, Hidenin house for the poor, Sheyakuin (medicine house for the poor) and Ryo-byoin (house for the sick). In 730 the Empress Komyo founded Hidenin and Sheyakuin at Nara. She herself washed the bodies of the poor and nursed the lepers.

Gyoki, a Buddhist monk who lived at the time of the Emperor Shomu (724-749), established 9 public lodging houses and a public bath house at Arima hot springs near Kobe among other benevolent works which he established at places where he made a stay in an evangelistic journey of the country.

Hokin-in, a Buddhist nun and sister of Wake-no Kiyomaro, a famous loyalist, made an appeal for and saved 375 rebels who were sentenced to death in 764, whom she took under her care. When a little later, or at the end of the 8th century, famine stroke Kyoto and children were abandoned on the streets she gathered 83 under her motherly care. This was the beginning of orphanages in Japan and it was soon followed by the Empress Masako, consort of the Emperor Junna (823-833), who took care of many orphans and abandoned children in Kyoto. In 876 she established a leper asylum in the precinct of Daikakuji temple, Kyoto.

In 1180 Jugen, a monk, built 15 public bath houses for the poor. Kosho, another Buddhist monk, worked for prisoners, taught beggars and outcasts to refrain from drinking, instructed prostitutes in doctrines of Buddhism.

The monk Ninsho of Seidaiji tem-

ple, Nara, followed examples of Prince Shotoku and repaired houses for poor patients and lepers. For lepers he built an asylum which is still standing at Kitayama, Nara, under the Government protection as a specimen of social work of the early times. Later he became the superior of Gokurakuji temple at Kamakura and established, in 1287, an asylum for the poor. In the following 20 years the asylum accommodated over 57,250 patients, of whom over 46,800 were cured. At the foot of Kamakura hill he also built a house for sick horses.

Public baths for the poor were prevalent in the Kamakura age (1192-1337). It was during this period that nunneries were first opened for protection of women who were maltreated by husbands something in the manner of the 6 cities for refuge in Num. 35, O.T. Two of these have remained to the present day: one Tokeiji at Kamakura which was rebuilt in 1285 by Sadatoki Hojo for his mother; the other Mantokuji in the county of Nitta, Gumma prefecture, which was established in this age and a daughter of the Tokugawas entered it in 1591. These nunneries were highly admired because of the nuns who came from warrior aristocrats and could stand against local authorities in protecting the weaker sex who took refuge in the nunneries. They became called Enkiri-dera or divorce temples.

In 1670 Tsunanori Mayeda (1643-1742), the lord of Kaga, present Kanazawa prefecture, established public lodging houses for beggars and poor patients on a hillside south of his castle in Kanazawa. The number of houses was 45, each having a size of 12 by 120 feet. 1,753 beggars and outcast were taken in with their opening. Poor travellers were given expenses at leaving and unemployed artisans were cared for till they

found suitable posts, while others were taught in petty industries. One of the latter was skilled in sword making and the masterpieces signed by the swordsmith "Hinin Kiyomitsu" or beggar Kiyomitsu are highly admired.

The blind were early protected by the Imperial House and in Nara Age the Kugas took charge of them by Imperial order and the blinds were taught to get living by music. There arose many first class blind musicians in the "biwa" or the "koto". In the Yedo Age the blind received relief money or got occupations in acupuncture and massage. In 1722 the Tokugawa Shogunate built an asylum at Koishigawa, Yedo (Tokyo) for the patients of the poorest class. Its first capacity was 40 beds, but it was later increased to 150.

Kanonko, a Buddhists' corporation, was established in 1830 by Sukenari S. Naha of Akita. Later 72 donors came to his help and the aged, invalids, the sick, the deformed and idiots were cared for. In 1930 the corporation had a fund amounting to ¥51,887 and rice, 2,760 koku.

The above are representative ones picked up among numerous recorded social works in old Japan. It must also be noted that relief works either by the government or individuals necessarily followed natural calamities in all ages on a considerable scale.

Meiji Era The earthquake of Nagoya in 1891, the North-Eastern tidal wave damages and famine in 1896, had quickened the development of orphanage work, and at the time of the Sino-Japanese and Russo-Japanese wars relief work for soldiers, child protection, and free medical treatment were also being taken up. Yet they had been largely carried on by philanthropic indi-

viduals, and hardly differed from the old-fashioned benevolent and rescue work. The World War served as a great stimulus for the development of modern social work, for the economic, social and moral changes suddenly brought about at and after the time of the great conflict raised various kinds of social problems and at the same time accelerated progress in all kinds of social work, such as relief of the poor, free medical treatment, provision of houses, employment exchanges, child protection, settlement work and the like. The great earthquake of 1923 was an epoch-making event from the standpoint of the development of such work. From the beginning of the twentieth century the Japanese Government has issued many laws on social work, the most important of them being as follows:—the Military Relief Act of 1917, the Tuberculosis Prevention Act of 1919, the Employment Exchange Act and the Housing Association Act of 1921, the Health Insurance Act of 1922, and the Insanitary Houses Improvement Act and the Public Pawnshops Act of 1927.

Bureau of Social Affairs In regard to the administrative organization of social work, before the Great World War there were only a few officials engaged in reform and relief work, in one corner of the Department of Home Affairs. But in August, 1917, a relief section was established in its Local Government Bureau. In 1919, this section was given the name of the Section of Social Affairs and in 1920, it became a new Bureau of Social Affairs as a central organization for social work; in 1922, the present independent Bureau of Social Affairs came into existence and the administration of all social work throughout the country was brought under its control. The present social work in Japan is summarized in March,

1932 as follows: the existing number of social work institutions and organizations, public and private, was 6,278, with annual expenses of ¥41,769,538 and the total amount of their property was estimated at ¥215,025,948.

The present tendency of Japanese social work is paving the way for the transformation of social work into a definite Governmental social policy. While the old benevolent work had developed into the present social work, the fundamental idea and means had undergone a great change. The present social work is carried on not necessarily with the idea of benevolence but rather on the principles of social solidarity and mutual help. From the standpoint of public welfare and mutual responsibility, modern social work has as its aim the solution of social problems and positive social reconstruction to accomplish the social welfare policy in co-operation with legislation on labour and social insurance.

Imperial Participation It must be remembered here that the Imperial House has been one of the leading factors in promotion of social work in Japan. Not to speak of the Imperial gifts in olden times, the Imperial donation of ¥1,500,000 in 1907 was the commencement of modern social work in Japan on a considerable scale because it called forth contributions from the people amounting to ¥24,350,000, and a society was organized for medical treatment for the poor. The annual Imperial donation for representative social works all over Japan was begun in 1921. The Imperial House has always taken the initiative in giving a large amount of money for social works of different natures with a full understanding of the aim of modern social work. For the celebration of the birth of the Crown Prince a fund amounting to ¥750,000

was donated by the Imperial House for the protection of children and mothers of the poor. The opening ceremony of the corporation Aikukai (Loving nursery corporation) established with the fund was held in the Tokyo Kaikan at Hibiya on April 29, 1934, in the presence of H. I. H. Princess Kuni, mother of the Empress.

Administration and Expenses

Organs for the Administration As mentioned above, the Government established an independent Bureau of Social Affairs in 1922 to control all the social works and institutions in the Empire. The office is located by the moat at Marunouchi, Tokyo, and stands facing the Imperial Palace. The Bureau consists of three departments, namely, Department of Labour, Department of Health Insurance, and Department of Social Work. The social affairs of local prefectures are under the direct control of the Sections of Social Affairs which are established in Prefectural and Municipal Offices.

The most important official organization for fundamental investigation of social work is the Social Work Investigation Committee established by the Government in 1926. This Committee, composed of distinguished persons in Government service and private life, have enquired into such matters as social work system, assistance to children, improvement of insanitary living quarters, and changes in the Reformatory Law. Of the private societies for investigation of social work, the Central Charity Association was the first instance of this kind. The Social Work Investigation Association in Osaka and the Buddhists' Social Work Investigation Association in Tokyo were established in 1913, the Religious Colleges Social Work Investigation

Institute in 1917, and the Ohara Social Problems Investigation Institute and the Kyocho Kai or Labour-Capital Harmonization Association in 1919. There are 35 such organizations in Japan. Of these, the largest are the two last mentioned. The Ohara Social Problems Investigation Institute was established by the same donor, Mr. Ohara, who had been the supporter of the famous Okayama Orphanage and is engaged in an impartial and fundamental investigation of various kinds of social problems; it has a library of its own devoted to the same purpose and gives printed reports on its investigation. The Kyocho Kai has for its object the promotion of co-operation between the employers and the employed, and is engaged, in order to carry out its purpose, in the investigation and promotion of social institutions, the education of labourers and the publication of magazines and books, in the Social Policy Institute and the Kyocho Kai Hall.

Other Associations There are many associations organized for the purpose of unifying social works. The first organ of this kind is the Central Charity Association. This Association, engaging in such works as holding meetings of social workers, publication of printed matter, and investigation of social work, has contributed a great deal toward the development of such work in general. Similar Associations are organized in every part of Japan reaching to the present number of 43. There are supplementary organs for carrying out social work effectively. The most important of them is the Block Committee System. It was established to encourage the spirit of mutual aid among the people, and aims at the survey and improvement of poor quarters and the giving of suitable guidance

and protection to the miserable. According to the estimate in 1931-1932, the number of the committee was 166 in all with 27,907 members and they are distributed all over Japan.

For the training of officers and workers there are 6 organs established in Tokyo and Kanagawa prefectures. The Kyocho Kai has held lecture meetings and the Central Social Work Association has held similar meetings for the cultivation of social work knowledge among the people. In 1921, the Social Work Department was established in the Tokyo Imperial University. The Japan Women's College, and the Social Work Lecture Institute in the Higashi-Honganji, a Buddhist temple in Kyoto, have worked for the same purpose. A chair of social work in the Japan University and a similar lectureship in the Tokyo Women's Union College, together with Social Work Departments in several Christian Colleges are doing a good work for the training of young people for social work.

Expenses The expenses of social work are derived from three sources, i. e., State, local and private. These expenses have increased on account of the speedy development of the work, especially since the rice riots in 1918 and the Great Earthquake of 1923. The expenses of social work in the year 1931-1932 amounted to ¥41,769,538, while the budget of local expenses for the year 1932-1933 amounted to ¥67,586,271. Besides these charges, there is special prefectural expenditure, such as Charity Relief Funds amounting to ¥9,045,728, Charity Aid Funds amounting to ¥2,489,277, and Military Relief Funds ¥2,481,199 in March, 1933. The funds created by the Calamity Fund Law totalled ¥94,388,407, in March 1933. The estimated expenses relating to the Bureau of So-

cial Affairs for the fiscal year 1933-1934 amounted to ¥21,129,413, ¥3,663,894 of which was the Govern-

ment help granted to local governments for general social works.

ESTIMATED EXPENDITURES OF THE BUREAU OF SOCIAL AFFAIRS IN 1931-1935

	(In yen)			
	1931-32	1932-33	1933-34	1934-35
Ordinary				
The Bureau	453,258	410,510	416,010	408,088
The Imperial Office of the International Labour Office	103,663	113,136	119,918	125,517
National Correction Institute	45,143	45,648	45,648	45,648
Wounded Soldiers' Institute	109,871	117,287	114,006	113,824
Labour exchange office	208,822	190,757	191,257	186,953
The Ainu protection	42,064	37,858	37,858	37,858
Military relief	1,740,910	2,453,388	2,761,865	1,594,001
Subsidy for local correction institutes	124,314	120,768	122,287	152,735
Charity relief	31,212	28,091	28,091	—
Subsidy for labour exchange	291,366	282,866	308,740	308,740
Subsidy for charity relief	678,518	2,834,776	2,834,776	2,834,776
Subsidy for prevention of child maltreatment	—	—	20,000	50,000
National expense for Health Insurance	3,335,511	3,073,444	3,072,824	3,072,824
Charity aid	100,000	—	—	—
Special aid	2,766	—	—	—
Sick and funeral aid	16	16	16	16
Total	7,265,486	9,708,545	10,073,296	8,930,980
Extraordinary				
Subsidy for the establishment of public pawnshops	170,000	150,000	—	—
Encouragement of public pawnshops	—	265,276	722,100	389,013
Subsidy for the improvement of bad residence districts	400,000	250,000	350,000	200,000
Subsidy for public works for unemployment in cities	—	14,878,955	—	—
Unemployment relief	—	—	7,029,185	4,593,185
Investigation works, improvements, committees, etc.	1,257,706	4,173,166	2,954,882	2,181,331
Total	1,467,706	19,712,897	11,056,117	7,363,529
Grand total	8,733,142	29,421,442	21,129,413	16,294,509

Child Protection

Child protection in Japan is divided into the following nine main classes:—(1) Care for women in pregnancy or confinement (2) care for infants (3) for weakly children (4) for children of the very poor (5) for the education of children (6) for child-workers (7) for maltreated children (8) for children to be reformed and (9) for abnormal children.

Women in Pregnancy or Confinement
The infant mortality rate of Japan

was lower until 1900 than in Western countries, but since then it has gradually risen, till it reached the deplorable figure of 189 deaths for every 1,000 births in 1918, and though there was a decrease since, in 1933, still the rate was as high as 12.1 per cent. As for the still-birth rate, though there was some tendency to decrease, it was 5.1 for every 100 births in 1933, the total number of still-births reaching 114,138, that is, 1.8 for every 1,000 of population. The greatest em-

phasis in child protection is laid on the protection and aid of expectant mothers, or the protection of children before and at the time of birth. For this kind of work there are at present such organizations as maternity hospitals, visiting midwives and confinement advisory institutes, besides legislation for maternity protection. In 1932-1933 there were 45 maternity hospitals throughout the country, while visiting midwives organizations numbered 391. Legislation for maternity protection is included in the Factory Law, the Mining Law and the Health Insurance Law. The first two laws provide that masters of industries and mines shall not require expectant mothers to work if they apply for leave of absence; after child-birth the mother shall not be required to resume work for 6 weeks, though if she requests work after 4 weeks and a doctor certifies her as fit, she may be allowed to resume it.

According to the Health Insurance Law, persons insured are to receive 20 yen for the expenses of confinement and also a daily amount corresponding to 60 per cent. of each day's wage throughout the no-work period for 28 days before and 42 days after child-birth.

Infant Protection The institutions now existing are divided into the four following kinds:—(a) hospitals for the unweaned pauper infants, (b) day-nurseries, (c) institutions for providing milk or other nutritious food for sickly and undersized children, and (d) infant health consultation institutes.

(a) **Infant hospitals.** There were 19 infant hospitals in the country in March, 1933. Of these 5 were established by public authorities and the rest were managed by private bodies or individuals.

(b) **Day-nurseries.** The demand for this work has become greater

year by year, owing to the recent development of industry and the influx of population into cities. The oldest institute for this work was the one established by Mr. Shobi Akazawa at a street in the city of Niigata, June, 1890. In May, 1933 there were 634 in the country, of which 155 were public establishments.

(c) **Institutions for providing nutritious food.** The work for providing milk was first undertaken by the Hygiene Bureau of the Home Office with the help of the city of Tokyo as an emergency measure immediately after the Earthquake of 1923, for those infants whose parents were quartered in parks or other places of the city. There were 6 such organizations.

(d) **Infant health clinics.** As the first instance of an independent organization for this kind of work, we may cite the Osaka Children's Clinic established in 1919. In March, 1933 there were 121 such advisory institutes.

Child-Protection As for the legislation for the protection of poor children, it is provided for in the part concerning children in the Regulations for Relief of the Poor promulgated on April 2, 1929. According to the national survey, made by the Bureau of Social Affairs, 1926, the number of widows and their children, and children of widowers or whose parents were destitute of daily necessities was 133,588.

(a) **Orphan Asylums.** The orphanage may be said to have been one of the earliest institutions that led the Japanese toward social relief work in general, as was the case with Western countries. The work has made remarkable progress and is supported by the public with better understanding and large contributions. In March, 1933, there were 127 orphan asylums in the

country of which only three were founded by public bodies. The total expenses of these asylums in 1932-1933 were ¥722,230 for 7,015 children which were chiefly met by incomes from the funds, incomes from business, subscriptions and public or private donations. Lately, however, the inmates of these asylums have a tendency to decrease on account of the development of various kinds of child-welfare work in other directions.

(b) **Protection of weakly children.** Physically weak children are cared for in recreation houses located near the sea or in the woods. The first example of this kind of work was that of the Tokyo Child-Nursing Institute which took a certain number of weakly children to the seashore of Boshu in 1900. Later, in June, 1926, the Child Protection Society, a corporation established in the compounds of the Bureau of Social Affairs, took up the work and has since provided a model example of it. As for the medical treatment of weakly children, the Children's Charity Hospital and the Children's Department of the Osaka Branch Hospital of the Japan Red Cross Society have been producing good results.

(c) **Protection of Children of School Age.** The elementary school attendance in Japan beats most of the nations of the world in its high rate. But there are a certain number of children who are kept from school partly through the operation of Article 33 of the Regulations for Elementary Schools, which recognizes as right in certain cases the non-attendance of children of school age, and partly because of poverty of the family. In March, 1933, the number of such children was 31,271. Encouragement of school attendance of those children, in some way or other, is made by the Government and vari-

ous private bodies. Every year the Education Department gives Common Education Encouragement Grants to prefectures for the purpose of encouraging children to attend school. Owing to this help, the rate of school attendance of children in general has increased in a notable degree, and the percentage of daily attendance was 99.57 in the school year 1932-1933 against 99.54 in the school year 1931-1932.

The number of the schools for giving poor children compulsory education and the number of those which have evening classes for the same purpose was 38. Besides these schools there were 15 nurse-maids' schools, and the pupils of the schools for poor children were 4,599 while that of nurse-maids' schools were 451, at the end of March, 1933.

The heavy depression in farm and fishery villages stripped elementary school children of their lunch and the Government bore the expenses for their lunch for three years, from April, 1932 to March, 1935. The disbursement of the National Treasury for the purpose was ¥668,101 for 1932-33, ¥1,069,536 for 1933-34 and ¥1,481,873 for 1934-35. The number of children benefited was 425,628 in 13,865 schools during the year 1932-33, and 512,632 in 13,614 schools during the following year.

(d) **Protection of Child Workers.** The International Labour Conference paid great attention to this problem of protection of child workers, and its first conference in 1919 adopted an agreement relating to the minimum age of child workers employed in industries and their night work, the second Conference in 1920 an agreement relating to the minimum age of child workers at sea and the third conference in 1921 an agreement relating to the same employed in agriculture. In Japan, there had been some laws in force already,

but the International Labour Conference, and recent labour conditions necessitated the revision of these laws and regulations. The legislative measures now in force for protection of child workers are the Revised Factory Law of 1923, the Minimum Age of Industrial Workers Law of 1923, the Regulations for Relief of Miners of 1926, and the Minimum Age of Seamen and Certificate of Health Law of 1923. In the Revised Factory Law, Article III provides that children under 16 years of age and women shall not be employed more than 11 hours a day (exception being 15 hours for certain kinds of occupation), Article IV prohibits their night work, and Article VII states that they shall not be employed in dangerous work. In the Minimum Age of Industrial Workers Law, Article II provides that children less than 14 years of age shall not be employed in industrial work, but those children over 12 years of age who have finished the ordinary elementary school course shall be exempted from this rule. In the Regulations for Relief of Minors, Article VI provides that children under 16 years of age and women shall not be employed more than 11 hours a day and Article XII and XIII that children under 16 years of age shall not be employed in dangerous work. And in the Minimum Age of Seamen and Certificate of Health Law, Article II provides that children less than 14 years of age shall not be employed and Article III that in case of children under 18 years of age being employed, a doctor's certificate of health must be obtained. Just before the enforcement of these laws, that is, at the end of 1925, there were 474 children over 10 and under 12 years of age and 6,709 children who were over 12 and under 14 years old and had not yet finished

their compulsory education employed in industries, but the Minimum Age of Industrial Workers Law enforced on July 1, 1926, has since prohibited their employment.

(e) Reformatory work. In March, 1900, the Reformatory Law was enacted and the establishment of prefectural reformatories was encouraged by the Government. According to this law, however, their establishment was voluntary. In 1908, it was revised and the Prefectural offices were compelled to found reformatories. Within two years after the enactment of the Law 30 reformatories were founded, both public and private. In August, 1917, an ordinance in regard to the founding of a national reformatory, which had been pending for many years, was promulgated, and in March, 1919, a State Reformatory, named the Musashino-Gakuin, was founded at a suburban village of Tokyo. The bills for juvenile courts and houses of correction, which had been pending for many years, were for the first time presented to the Imperial Diet by the Law Bureau as Government Bills, and in April, 1921, they were published as the Juvenile Law and the House of Correction Law. To meet the need of the progress of the times, however, these were revised and the Law No. 55 was promulgated in May, 1933. It is called the Juvenile Protection Law and became effective on October 1, 1934.

At the end of 1934 there were 52 reformatories, the capacity being for 2,364 children, with the estimated expenses amounting to ¥677,312 for 1934-35. In addition to these reformatories, there are 31 Correction Societies which are taking care of boys and girls who are not under the direct care of the reformatories.

(f) Protection of Abnormal Children. Blind and deaf-mute children

are taken care of in blind schools and deaf-mute schools. The importance of protecting feeble-minded and other mentally defective children has long been insisted upon by the thinking public, but the number of organizations for that purpose is only 6 in all, of which only one, that is, the Imamiya-Gakuen established by the City of Osaka, is a public one, the number of inmates being 145, in March, 1933. It is estimated that there are over 5,000 such children left entirely to the ineffective care of individual homes.

(g) Prevention of Maltreatment. The Law for the Prevention of Child Maltreatment, which was promulgated with Law No. 40 in April, 1933, states the power of prefectural governors to give adequate warning to the people who have power over them and make provisions for putting such children under the care of suitable persons when necessary and prohibit the maltreatment of children in such performances as acrobats and the circus. It was put in force on October 1, 1933 to March 31, 1934, the number of the children protected by the Law was 593; of the total 179 were from maltreatment by parents or relatives, while 414 were forced to overwork in petty shows or as street singers, geisha girls, etc.

Economic Protection

Supply and Improvement of Houses

(a) Building and management of houses by public bodies. To meet the pressing need of supplying economical and at the same time sanitary houses, in the year 1918, a note was issued to encourage public bodies to build and supply houses, the building cost of which might be loaned from the Funds of the Deposit Office of the Finance Department, at an annual interest of 4.8 per cent.

The rate of interest was revised twice since and the present one is 3.2 per cent. This low-interest-rate loan together with a loan from the Reserve of the Post Office Life Insurance greatly facilitated the building work. Several other means were adopted to facilitate the work, namely, the sale of building materials produced from the Government forests at low cost, reduction in or exemption from freight charge for transportation of building materials, application of the Land Expropriation Law, if necessary, in case of buying land for the building of houses of public bodies, and freedom from the Registration and Construction Taxes. As to the result of this encouragement, the total number of houses built during the 15 years from 1919 to 1933 reached 66,486 with the total cost of building ¥111,888,940.

(b) Enforcement of the Housing Association Law. To give convenience to a number of middle-class people for building their own residences the Government issued the Housing Association Law in April, 1921, and it was put into force the same year. The association is to be a legal person possessing several privileges in respect of taxation, acquisition of land, etc., and the working funds were loaned to the associations from the Funds of the Deposit Office of the Finance Department through the prefectural offices. In November, 1933, there were 2,740 associations under the Law, owning 30,703 houses.

(c) Enforcement of the Insanitary Building Site Improvement Law. Supply of dwellings is one aspect of this question and their improvement is another. The first step taken by the Government in the latter was to improve and remake the sites in cities where poorly built houses were crowded together. A nation-wide investigation made in June, 1925,

showed that there were 217 such quarters with over 72,600 families and over 309,000 inhabitants. The land level was generally low, the quarters naturally damp, and an intricate network of unpleasant narrow roads, together with a congestion of small but not at all compact houses lacking in proper light and ventilation, made the place an unplanned hodge-podge. For the start of their programme, the Government, taking up a plan to remake such quarters existing in the so-called six largest cities (Tokyo, Osaka, Nagoya, Kyoto, Kobe and Yokohama) and in the rural districts contiguous to them, enacted in March, 1927, the Insanitary Building Site Improvement Law which was enforced in the same year. It gives directions and definitions on the following items:—agents connected with the work, quarters to be improved, temporary accommodations for the inhabitants of the quarters to be remade, readjustment of land and houses, subsidy from the national treasury, and expropriation or compulsory use of land and manufactured articles. Subsidies granted to local governments from the national treasury for this purpose amounted to ¥3,790,000 in 1927-1933. But the improvement was completed in most of cities and the budget for 1933-34 subsidies was diminished to ¥200,000.

Public Lodgings Single working men, unemployed persons and the like, as a rule, sleep at imperfectly-equipped doss-houses or cheap lodgings, or live with others. In 1925, there were 8,873 doss-houses with 92,861 monthly sojourners who had families, 200,518 single persons and 208,775 one-night lodgers, amounting to 502,154 persons in all. This situation was not at all desirable viewed from any angle, and the preparation of cheap yet healthy

public lodging-houses seemed an urgent need for the welfare of labourers and the like. The number of such lodgings at the end of the fiscal year, 1932-1933, was 152 and the monthly average number of lodgers was 245,650. Of the total number of lodgings 67 are free, the rest charging 10, 15 or 20 sen a night.

Public Markets The public markets are retail markets managed by public bodies or public welfare organizations having as their aim a cheap supply of food-stuffs and other daily necessities. According to the investigation made in November, 1921, by the Bureau of Social Affairs, the average cost of food-stuffs of the poor families in the city of Tokyo was 54.7% of their total living expenses. On the other hand, the rapid rise of the prices of commodities in the post-war period showed no signs of halting while individual incomes failed to catch up with the price level. And in August, 1918 a rice riot was started by the poor housewives at a small village of Toyama prefecture which spread over the country like a prairie fire. The situation awakened Imperial solicitude, and ¥3,000,000 was granted for relief from the Privy Purse. The Government also provided ¥10,000,000, and the amount of contributions by wealthy men and benevolent persons reached ¥25,000,000. This money was used in giving rice to the poor in the country and in opening establishments where rice was sold at lower prices. In December of the same year, the Government issued a note encouraging the establishment of public markets, and made available loans at a low rate of interest for the necessary expenses in establishing such markets. In March 1933 there were 291 such markets opened in almost all prefectures but 6, and sales for the fiscal year amounted to ¥51,280,228.

Lunch Rooms The object of the people's lunch rooms, whether attached to a public lodging-house or independent, is to provide labourers, small-salaried men and the like with simple, wholesome and sanitary meals at cheap rates. In March, 1933, there were 70 of these people's lunch rooms, most of them managed by public bodies and located in cities and towns, with 989,681 meals taken in a month. Each meal cost from 12 to 20 sen.

Public Baths Japanese people greatly enjoy their baths, but only a small proportion of them can do so in private. The majority have to utilize public baths. Moreover, it is not very infrequently the case that people take fewer baths than they require as the bath-charges are not cheap enough, and herein lies the need of sanitary, well-equipped, cheap or free public baths. The number of public baths in March, 1933 was 169, patronized by 1,959,445 bathers a month.

Public Pawnshops The pawnshop and the money-lender are utilized by the people of small means as a simple and popular means of monetary circulation. The Public Pawnshop Law was promulgated in 1927, which regulated on the subjects of managing bodies, subsidy of 50 per cent. of equipment expenses from the national treasury, loans, computation of interest and term of pledge. At the end of May, 1933, there were 529 public pawnshops, the total amount of loan reserve being ¥9,810,000. The present financial depression throughout the urban and rural districts caused unprecedented tightness of money among the salarymen, labourers and farmers of smaller means, and the need for public pawnshops became more acute. The 63rd session of the Imperial Diet gave consent to a plan for the establishment of 200 pawnshops by the Government

in 1932 and the number in 1933 gained 285 over the previous year. This policy has been continued for 1934 and 1935, and the estimated amount of subsidies for the establishment of public pawnshops was ¥722,100 for 1933-34 and ¥389,013 for 1934-35. At the end of April, 1934 the number of public pawnshops was 787 with the total amount of loan reserve of ¥12,843,816.

Protection of Unemployed

Employment Exchanges There have been from olden times private employment exchanges called "Keian" or "Kuchiireya" conducted by individuals. But there were no free exchanges until 1901, when in Hongo Ward of the City of Tokyo there was established a free lodging-house for low class labourers and the unemployed, and along with this charitable work the first private free employment exchange was founded for the lodgers in 1906. The earliest public employment exchanges were established in Tokyo, in 1911. At the close of the Great War, the Home Office felt the urgent necessity of extending and developing the employment exchanges in order to meet the needs of the time. In 1920, the Office put into circulation a low-interest loan for the establishment of the employment exchanges to cope with the demands caused by an extreme business depression. And in June of the same year, the Home Office, in order to systematize the work of employment exchanges, took charge of all the affairs relating to them, and in order to extend, unite and develop them, allowed the Kyocho-Kai to start a central managing office of all the employment exchanges in the country.

(a) **Employment Exchange Law.** Complying with the general demand, the Employment Exchange Law was issued in 1921. According to this

Act, employment exchanges are, in principle, public organizations. They are voluntarily established and conducted by the heads of cities or towns, but in some instances the Home Minister gives orders for the establishment in places where he thinks the conditions demand it. The National Government subsidizes them to the extent of one-half of the expenses for buildings and equipment at the beginning and one-sixth or less of other expenses. One Central and several Local Employment Exchange Bureaux are to be founded for the unification of those exchanges in the country, and the work is under the supervision of the Home Minister and the Directors of these Bureaux. A standing committee is to be established to direct the management of the exchanges. There may also be established private free employment exchanges with the permission of the administrative authorities, and the aid afforded by all these employment exchanges must be free of charge.

After the enforcement of this Law, in November, 1922, the convention relating to unemployment, adopted by the First International Labour Conference at Washington, was ratified and published for the encouragement of this kind of work. In addition to the provision above mentioned, the Regulations for Enforcement of the Employment Exchange Law were revised, 1924, in order to systematize the connections among employment exchanges, and there were also newly-introduced regulations for the establishment of seasonal-employment exchanges, and of employment exchange committees in cities and towns for the promotion of this work. It is true that there are still a great many employment exchanges run for profit, but owing to the increase and improvement of public employment exchanges, they

are gradually decreasing. And to conform with a resolution adopted at the Washington Conference of 1919, the National Government enforced from the 1st of January, 1927, the Regulations for the Control of Employment Exchanges for Profit.

(b) Activities of employment exchanges. In March, 1923, the Government established the Employment Exchange Bureau, and in April, the Central Employment Exchange Bureau, the Tokyo and the Osaka Local Employment Exchange Bureaux, and in April, 1927, the Nagoya Local Employment Exchange Bureau. In February, 1924, the system of the Employment Exchange Committee was introduced as an enquiry office for the administrative authorities concerned with the work. In March, 1934, there were 525 such employment exchanges, 35 of these being established by private bodies, cases handled by 455 general employment exchanges and involving workers in the shops and factories being 1,528,291 for adults and that for day-labourers reaching to the enormous number of 20,124,272, during the same year. The percentage of the hired was 41 and 83 respectively.

(c) Privileges in connection with employment. The privileges to be enjoyed by those who are cared for by public employment exchanges and the special arrangements connected with them are as follows:

(1) Reduction in fares—half third-class—is allowed for a train or steamer, (2) An advance of wages may be granted, (3) Loans may be made for expenses in travelling from the present domicile to the destination, (4) Implements for work are lent; also (5) Mutual aid systems of unemployment insurance, medical treatment and credit, (6) Occupational fitness test for the choice of work, (7) Vocational guidance lecture meetings, and (8) A low inter-

est loan, may all be availed of.

(d) Juvenile Employment Exchange. Juvenile employment has lately become one of the most important social problems which draws the serious attention of thinking people. To encourage boys and girls to choose their work according to their abilities is most desirable in view of the fact that their livelihood will thus be made secure for the future and there will be smaller danger of their losing positions. The Government has paid much attention to this point since the year 1925, and the Employment Exchange Bureaux, taking into consideration the opinions of the prefectural authorities, designated the elementary schools to be connected with Public Employment Exchanges, and held consultation meetings on this subject, calling school masters and other persons concerned to attend, and a committee for juvenile vocational guidance was to be established, composed of those officials of Public Employment Exchanges who were well informed of juvenile employment and those educationists, doctors and social workers for child protection who were well versed in child psychology.

There are three institutions for the juvenile employment guidance, namely, the Tokyo Prefectural Juvenile Employment Exchange, the Tokyo City Woman and Juvenile Employment Exchange, and the Juvenile Division of Osaka City Central Employment Exchange. Many Public Employment Exchanges include the work of juvenile employment exchange, beside these organizations.

In 1931-1932, there were 25,665 elementary schools of which 4,202 had connection with Public Employment Exchanges, and the number of cases being 212,854 and the employment rate was 41 per cent.

(e) Unemployment Relief. The

Government, in 1925, asked the six largest cities and Osaka Prefecture to start public works in order to provide work for day-labourers who were suffering from seasonal unemployment in winter, and granted half of the cost for wages to labourers thus employed. This work generally concerns itself with roads, dredging, waterworks, sewers, banks of rivers, reclamation of land, necessities for the army, etc. The local public organizations connected with the six largest cities have been engaged, since, in this work every year with the support from the Government. In 1933-1934 the result of the unemployment relief works was as follows:

	Business Expenses	Wage paid	Number of day-labour
1933-34	¥36,741,180	¥13,701,548	10,527,072
1934-35	23,974,407	7,717,699	5,857,452

(f) Vocational Guidance and Provision of Employment. The work of vocational guidance and providing employment has developed only of late years, especially since the Great Earthquake. Vocational guidance emphasizes the development of ability for employment by simple methods, while providing employment means the utilization of institutions necessary for employment. The oldest institution for vocational guidance is the Tokyo Municipal Vocational Guidance Society, which is a juridical body established in 1922, with a fund of ¥100,000 contributed to the city by the Kanegafuchi Spinning Company for the relief of the unemployed. There are now 6 institutions for vocational guidance in the country.

Institutions for providing employment are much older than those for vocational guidance. The first example was an organization established by Fukuoka prefecture, in 1884, for the purpose of giving em-

ployment to samurai families after the abolition of feudalism. This work has gradually been extended with the change of social conditions and increasing financial difficulties, and there are 73 organizations giving employment, chiefly home work for women, such as hand and machine sewing, knitting, embroidering, doll-making, lace-making, flax-thread-making, envelope-making and the like.

In connection with the work of providing employment, one word seems to be necessary about the Keisei-Sha. It is a juridical corporation, with an endowment fund of ¥1,000,000. This organization is engaged in such work as protecting the crippled, giving them employment, helping them to study, and providing them with artificial limbs. This study of the problem of providing artificial limbs by the organization is so far the only example in this country, though it has been greatly developed abroad and especially since the European War. It is believed that it will do much in the future toward the promotion of the happiness of the crippled. The homes as well as the workshops of the organization are situated in the compounds of the Asylum for Disabled Soldiers in Tokyo prefecture.

The Population and Food Investigation Committee has adopted very important resolutions, and the Government is now seriously studying the points contained in them. The most important of them are (1) to put employment exchanges under the management of the State, (2) to provide the means for prevention of unemployment and relief work by the establishment of public unemployment funds of the State and local public bodies, (3) to take some measure for the supervision and encouragement of unemployment mu-

tual aid institutions, (4) to encourage and supervise the establishment of the systems of giving discharge allowances and of providing unemployment reserve funds (5) to encourage the establishment by industrials themselves of labour efficiency and unemployment prevention committees, and (6) to establish such organizations as an unemployment investigation committee or an unemployment investigation institute.

As for the establishment of an unemployment insurance system, the Government, besides trying to obtain exact figures about unemployment as the basis of such a system, is doing its best not only to examine the results of systems of discharge allowances, mutual aid associations and health insurance but also to make a comparative study of the legislation on this subject in various foreign countries, and when it reaches definite conclusion, intends to submit it to a labour insurance investigation committee.

Poor Relief

General Poor Relief The Regulations for Relief of the Poor were promulgated as early as 1874. The revised Relief Law was promulgated on April 2, 1924 and was put in force on January 1, 1932. The regulations maintain the old spirit of mutual help among relatives and neighbours and, at the same time, emphasize social solidarism and public responsibility of relieving the impoverished people. Those who are relieved by the law are poor old people above 65, helpless juveniles under 13, poor pregnant women, helpless invalid and cripples, those who are handicapped by sickness, wound or mental disorder, and poor mothers who are nursing infants under one year.

The period of time for relief should generally be as long as it is

required, but sometimes, especially when the case is taken up by a Block Committee, it is fixed, for example, at three or four weeks. The method of relief is of two kinds, indoor and outdoor, and as for the former, such large cities as Tokyo or Yokohama have their own homes or other relief institutions, otherwise the smaller municipalities entrust the relief of the poor to those orphanages, asylums or charity hospitals which are managed by private persons or organizations.

In 1932-1933 the number of the poor relieved was 157,072 and that in 1933-1934 was 208,570.

Special Poor Relief Special poor relief, as against general poor relief, includes (1) Proper attention for those found sick, dying or dead by the roadside, (2) Relief of sufferers from natural calamities, and (3) Relief of impoverished soldiers and their bereaved families.

Attention to the sick and dead found by the roadside is of fairly long standing, but the regulations now in force were issued in 1899; these regulations aim at relieving those people who are found sick on the road, or disposal of dead bodies, and care for the children who are with them. The heads of the cities or towns where they are found must apply to the prefectures concerned for authority to take charge of them in case there are no relations on whom they can depend. The expenses for their relief, if not met by those who are relieved themselves or their supporters, must be defrayed by the prefectures concerned, and they may be handed over to public or private institutions for further help though there is no fixed period of time.

Calamity Relief Japan suffers particularly from natural calamities owing to its climate and volcanic

activities, the losses amounting to nearly ¥70,000,000 every year, from fires and floods. To relieve the sufferers from these calamities, there have been established the Natural Calamities Relief Fund Law and Sea Disaster Relief Fund Law, in 1899. The Government had promulgated the Biko Chochiku Law in 1880, according to which ¥1,200,000 each year had been paid out of the National Treasury. This amount of money had been distributed between the Central Government and Prefectures which, in addition to this national aid, and appropriated public saving funds. Consequently, the total of the funds both of the Central Government and Prefectures had been enormous. Since 1890, the disbursement from the National Treasury and the appropriations by Prefectures had been abolished and the said Laws were issued instead. At the end of April 1933, the total amount of the Funds was ¥93,334,800, and in 1931-1932 the amount of the disbursement for relief out of these Funds totalled ¥1,000,504.

With the sad experience at the time of the Great Earthquake of 1923 fresh in the public memory, Osaka and Kyoto introduced the Great Calamities' Relief Regulations soon after that terrible event, according to which the Prefectural Offices, the Municipal Offices, the Army Division, and the Gendarmerie Corps are to co-operate in cases of great emergency.

The annual number of marine disasters off the coasts of Japan is over 1,000, and the average number of persons killed, injured or missing in these disasters reaches 600 or 700 a year. For the relief of these persons, the Sea Disaster Relief Law was issued in 1899, by the terms of which the heads of municipalities are invested with certain

powers to give relief at the expense of the captain or owner of the ship concerned, but in case the money is not refunded by the captain or owner, or the relief proves insufficient, the expense incurred is paid by the National Government.

Military Relief Military relief work is different from other relief work. Its object is to give help to soldiers or their families who are suffering from want on account of military service. The method of this relief is of two kinds, institutional and domiciliary, and the law for the former is the Disabled Soldiers' Asylum Law and for the latter the Military Relief Law.

The Disabled Soldiers' Asylum Law provides for the life-time care in the Disabled Soldiers' Asylum of those who are receiving an additional pension on account of wounds received on active service or illness incurred during their term of service. The governing condition is that they must have no other source of help, but those who need such relief and suffer from deformity or disablement more severe than the kinds mentioned in Article 24, Items 1 and 2 of the Enforcement Regulations of the Pension Law, can also be taken care of. The admission of all cases shall be sanctioned by the Home Minister. There is one such asylum established by the State at Sugamo, Tokyo.

The Military Relief Law was issued in 1928. By this Act, relief is given to common soldiers who were disabled or crippled while in public service, and to their families, to the families of soldiers on active service or soldiers called out for special service and the families of soldiers who died on service if the said families are in need of help.

The cost for this relief has been increasing though the number of cases fluctuates every year. The fig-

ures for the fiscal year 1933-1934 were 30,094 households involving 98,905 persons relieved, and ¥2,702,935 expended for the purpose.

Private Military Relief The organizations for private military relief work numbered 31 at the end of March 1929, the Japan Red Cross Society and the Imperial Military Aid Society being the most prominent, and these organizations are mainly engaged in the giving of relief, generally temporary, to those who are outside the application of the Military Relief Law.

Health Protection

From very long ago, the Imperial Household has paid attention to the care of the sick. A sort of dispensary called Hospitals for the Poor were established in 593, by Prince Shotoku. The present Saisei-Kai, a foundational juridical person, established by the wish of the Emperor Meiji to give medical treatment to the poor, continues the work of these ancient hospitals.

Free Medical Treatment There are fairly many organizations which give free treatment, e. g., hospitals, medical consultation offices, visiting treatment societies, visiting nursing societies, etc. The Government decided to extend the work to farm-villages and fishing communities with ¥6,000,000, a part of which was donated by the Imperial House. It is to be continued from 1932 to 1935. There are 142 hospitals and 313 smaller branch hospitals or medical clinics, according to the statistics of 1932. In 1933-34 persons treated by the hospitals only were 895,526.

Cost-Price Treatment The Emperor Meiji pointed out, in his edict, that Japan was also experiencing an economical change with the general trend in the world, that it was most regrettable to see faithful but poor subjects suffering from illness

unable to get medical treatment, and that there was acute need to give suitable relief to them; and he gave a large amount of money elsewhere mentioned.

The thing most dreaded by the labouring classes is sickness or injury. Once smitten by sickness or rendered idle by injury, a workman is thrown out of work no matter how much he may desire it and has no means of getting medical treatment; his days of unemployment may be prolonged forever, and finally he may be stripped of all his possessions and his family may starve.

The Cost-Price Medical Treatment Association, a corporate juridical person, was organized on the 5th September, 1911 by the effort of Mr. Suzuki and Dr. Kato.

The Association has its headquarters in Tokyo and four branch offices in Tokyo, Yokohama, and Osaka and there are now 41 cost-price medical treatment offices established by public bodies in different parts of Japan, and 112 hospitals in which the proletariat patients are treated at cost-price.

The Do-ai (or mutual love) Hospitals in Tokyo and Yokohama, the Imperial Charity Association, the Red Cross Hospital, the Jikei (or benevolence) Association Hospital have recently begun cheap medical treatment. The Do-ai Hospitals in Tokyo and Yokohama were established with the money given by the American people at the time of the Great Earthquake, 1923, as a memorial of their kind assistance in that period of trial. Mr. Suzuki, who has played a brilliant part in the promotion of this kind of social work, is now insisting upon the national management of all medical business for the thorough protection of the life of the people in view of the unreasonable high cost of medical treatment

by common practitioners and consequent loss of life and impoverishment.

Sanatoria, Asylums and Special Hospitals We find a regulation concerning mental disease in the Taiho Laws issued in 701. But the number of sufferers increased in direct proportion to the advancement of civilization. Our statistics record the fact that at the end of 1912 there were 32,964 insane persons, by the end of 1922 the figure rose to 50,891, and in 1933 it stood at 76,039, an increase of 2,499 as compared with the preceding year, the ratio is 11.31 in every 10,000 of the population, an increase of 0.22 as compared with the preceding year.

(a) Laws and regulations concerning insane persons. The Law for the custody of Insane Persons was enacted in 1900, with the object of protecting the public from harm at the hands of insane people. It provides for the appointment of a responsible person to place an insane person under his custody, and if necessary, by the approval of the prefectural governor, to confine the said insane person. The expenses, according to this law, shall be borne by the estate of the insane persons themselves or by proper responsible persons, as the case may be, and in case any insane person protected by the order of the head of a municipality is unable to reimburse the money advanced by the municipality, the prefecture shall bear the expenses.

The Insane Asylums Law, which may be taken as a sub-division of the previous one, gives power to the competent Minister to order and bring prefectures, if necessary, under obligation to establish insane asylums or hospitals (Art. 1), and makes provisions concerning the state subsidy.

(b) Present condition of insane

asylums and hospitals. At the end of 1933 there were 8 public hospitals for the insane and 112 private asylums, with combined capacity for 15,996 patients. At the end of 1933 there were 5,070 in-patients in these hospitals and asylums.

(c) Tuberculosis. It is almost impossible to get the exact number of the cases of tuberculosis in this country, but the ratio of patients per 1,000 of the examined in accordance with the provisions of the Law for the Prevention of Tuberculosis was 0.26, a decrease of 0.05 as compared with the previous year, and in 1932, there were 87,427 killed by pulmonary tuberculosis, that is 74.4 in every 1,000 deaths, the highest ratio for these five years. The Government issued regulations, 1914, concerning the establishment of tuberculosis sanatoria in cities of more than 30,000 population, and regulating the state subsidy thereto. The present Tuberculosis Prevention Law was enacted in 1919.

(d) Leprosy. For the prevention of leprosy, the Leprosy Prevention Law was issued in 1908. By this law, aid for indigent lepers out of public funds, the order of the competent Minister for the establishment of leper-asylums by united prefectures, or the use of private ones in lieu of public ones and other such matters are provided for. The whole country, in conformity with this law, was divided into five Divisions numbered one to five. Besides these 6 public leper-asylums, there are 7 private ones. The Koyama Fuku-sei In, established by the Roman Catholic Church in Shizuoka prefecture, the Ihai En in Tokyo prefecture, the famous Kumamoto Kaishun Byoin founded by an English lady, Miss Riddell, and the Tairo In in Kumamoto prefecture have done valuable work for many years, being managed by Christian missionaries. (See Chapter XXXII on these subjects.)

STATISTICAL TABLE OF SOCIAL WORKS IN JAPAN

(The fiscal year 1932-1933)

Name	Organization or Institution	Property and Fund	Expenditure
Organs	1,193	¥88,067,649	¥5,167,489
Unifying organizations	55	4,999,211	1,760,692
Investigation org.	35	850	1,204
Educational org.	6	13,500	8,412
Supplementary org.	17	30,300,150	1,934,189
Block committees	70	—	754,698
Backing organs of the block committees	1,010	2,753,938	708,294
Child protection	1,481	14,146,539	3,781,247
Protection of pregnant women			
(Midwives)	391	11,841	109,276
(Hospitals)	45	1,188,442	507,482
Protection of suckling infants	19	231,473	82,419
Day-nursery	589	3,188,642	925,867
Feeding infants	127	5,495,723	722,230
Child consultation	121	90,088	115,698
Protection of cripples	1	21,708	2,829
Protection of weak children	6	1,910,625	244,598
Protection of sick children	17	33,670	27,440
Protection of poor children	38	562,290	119,914
Schools for nursemaids	15	14,042	6,290
Education of working children	11	83,709	15,196
Reformatory education	59	—	677,812

Name	Organization or Institution	Property and Fund	Expenditure
Reformatory protection	31	¥88,718	¥60,237
Protection of abnormal children	6	1,048,034	122,658
Stammer correction	4	64,041	19,152
Economical protection	1,832	—	—
Housing work	642	—	—
Common inns	152	—	—
Public markets	291	—	—
Cheap dining rooms	70	—	—
Public baths	167	—	—
Public pawnshops	510	—	—
Relief and prevention of unemployment	556	1,980,484	2,943,158
Giving works	72	1,887,054	1,262,354
Employment exchanges	479	—	1,479,876
Vocational guidance	5	93,430	200,928
Poor relief	582	24,980,670	2,747,668
Relief at homes	195	3,270,488	327,802
Relief in institutions	113	10,882,898	1,348,659
Protection of cripples and invalids	26	1,501,372	167,712
Protection of the bereaved families of soldiers	248	9,825,912	903,495
Medical treatment	599	33,801,464	10,659,165
Charity hospitals	142	22,203,020	56,188,448
Consultation rooms	312	3,500,318	1,664,418
Consignment treatments	61	302,351	76,545
Insane hospitals ¹	44	1,234,381	451,865
Tuberculosis sanatoria ²	28	4,155,540	1,371,959
Leper homes	12	1,905,854	905,930
Miscellaneous	548	114,907,632	21,495,621
Settlement works	152	7,374,050	4,097,502
Consultation bureaux	146	65,818	23,477
Protection of women	23	600,312	172,397
Mother and child protection	13	63,257	11,883
Father and child protection	1	—	1,655
Visiting sick people	12	37,873	33,641
Hygienic education	89	2,334,988	1,092,967
Funeral aids	6	93,752	28,092
Other works	106	104,337,582	16,034,007
Total	6,791	227,384,438	46,794,348

Note: (1) and (2) for the poor only. See Chapter XXXII for full statistics.

STATISTICAL TABLE OF SOCIAL WORKS IN JAPAN

(Continued)

Name	Results (Cases or men treated)	Workers
Organs	(Cases) 3,707,680	33,755
	(Students) 198	
Unifying organizations	—	330
Investigation org.	—	36
Educational org.	(Students) 198	130
Supplementary org.	—	102
Block committees	(Cases) 3,707,680	33,107
Backing organs of the block committees	—	—
Child protection	155,773	5,047
	(Cases) 73,739	
Protection of pregnant women		
(Midwives)	8,507	
	(Cases) 18,636	347
(Hospitals)	45,175	426
Protection of suckling infants	12,655	84

Name	Results (Cases or men treated)	Workers
Day-nursery	59,475	2,191
Feeding infants	7,015	691
Child consultation	(Cases) 55,103	250
Protection of cripples	14	6
Protection of weak children	716	110
Protection of sick children	12,124	36
Protection of poor children	4,599	520
Schools for nursemaids	451	47
Education of working children	824	61
Reformatory education	2,364	503
Reformatory protection	—	—
Protection of abnormal children	145	34
Stammer correction	1,195	19
Economical protection	(Houses) 33,500	—
	(Tsubo) 38,337,314	—
	(Sale) 51,280,228 (yen)	—
	(Loan) 8,475,093 (yen)	—
Housing work	(Houses) 33,500	—
Common inns	(Tsubo) 2,947,300	—
Public markets	(Sale) 51,280,228 (yen)	—
Cheap dining rooms	(Tsubo) 11,876,174	—
Public baths	" 23,513,340	—
Public pawnshops	(Loan) 8,475,093 (yen)	—
Relief and prevention of unemployment	13,778,385	2,253
Giving works	13,332	303
Employment exchanges	(Hired) 540,725	1,886
Vocational guidance	13,778,385	—
Poor relief	284	64
Relief at homes	(Cases) 136,211	1,128
Relief in institutions	(Cases) 135,937	271
Protection of cripples and invalids	9,106	645
Protection of the bereaved families of soldiers	(Cases) 555	92
	(Cases) 40,588	119
Medical treatment	1,838,854	13,000
Charity hospitals	1,038,521	6,713
Consultation rooms	757,763	4,153
Consignment treatments	20,801	451
Insane hospitals	8,130	791
Tuberculosis sanatoria	9,194	705
Leper homes	4,445	187
Miscellaneous	4,583	—
Settlement works	(Cases) 57,967	2,065
Consultation bureaux	(Cases) 43,446	190
Protection of women	(Cases) 3,512	—
	(Cases) 8,405	89
Mother and child protection	1,071	23
Father and child protection	45	3
Visiting sick people	—	34
Hygienic education	(Cases) —	35
Funeral aids	(Cases) 6,116	41
Other works	—	1,077

The Red Cross Society of Japan

Red Cross Work before Meiji Era
The spirit of Japanese warriors was humane and their way of fighting against each other never evidenced such brutal cruelty as it was often seen in the battles in other countries. The oldest record of Japanese samurai spirit is the order issued by the Empress Jingō, in 200 A. D., when she conquered Korean peninsula. A paragraph of the order says: Neither be careless of a small body of the enemy, nor be afraid of a strong army; be relentless against the tyrannical, but be kind to the meek and obedient.

In 947 the ex-Emperor Suzaku pacified the spirits of both the government army and the rebellious in a great memorial service at Enryakuji temple.

After the Yuan Invasion in 1274 and 1281, a temple named Koraiji was established in a village near Fukuoka in memory of the Mongolian soldiers who perished in the Korean straits. It was protected by the Imperial House for some time, but it is now extinct. At present two mounds remain in the neighbourhood, of the old precinct of the temple. One is called Mōko Sennin Zuka (Mound for 1,000 Mongolians) and the other Mōko Mannin Zuka (Mound for 10,000 Mongolians). Each of them has a height of 3 metres and occupies an area of 1.5 ares. Tokimuné Hōjō, the chief executive of the Kamakura Shogunate, enshrined 1,000 Ksitigarbhas in Enkakuji temple of Kamakura to the memory of the Japanese and Mongolian soldiers who perished in the battles.

In 1597 Hideyoshi Toyotomi who sent armies to Korea buried parts of the Korean soldiers in a mound called Mimi Zuka (mound of ears) at Higashiyama, Kyoto, with an elab-

orate ceremony. In 1598, in the battle at Shisen, Korea, Yoshihiro Shimazu, a general of the Japanese army sent by Toyotomi, protected Korean people from the unguarded attack of his own soldiers and in 1599 he built a splendid tomb for Japanese and Korean soldiers at Kōya mountain, one of the most famous Buddhist holy places in Japan. Prisoners taken back by his army were humanely treated and given land, and many of them remained in Kyushu as potters. Another general Kiyomasa Katō took two young Korean princes, their consorts and attendants, prisoners, but treated them for full one year as guests in his camp in Korea and sent them back to Seoul in safety, for which act Korean princes left a letter of thanks with him.

The Japanese take sympathy with the wounded or killed in battles, those who sacrificed their lives for others, or things which served their useful purposes. Characteristic examples of this may be seen in many kinds of little religious ceremonies for the dead or used-up things, for instance, Harikuyō (ceremony for sewing needles), Kuyō for carcasses (of men and animals) used for autopsy. Harikuyō is celebrated by women, dressmakers or "tabi" (Japanese socks) makers who are great users of needles on February 8 (in some districts on December 8) every year. On that day those who observe the ceremony keep a holiday, gather old needles, pin them into bean-curd and present it to Awashima shrine, or gather all the old needles in the needle cushion, put them into folded paper, and place them on the "tokonoma" and present Japanese dumplings to them. Kuyō for carcasses is kept by medical colleges.

There were innumerable battles fought between warrior lords in all

ages and periods of the Japanese history and many stories of philanthropic dealings of enemy soldiers are recorded in books and documents.

Present Status The Red Cross of Japan which owes so much to the high patronage of the Imperial House, and which can fairly claim that it enjoys the support and appreciation of the whole nation, has every reason to be proud of the advance it has made since 1930. The Society now shows a membership of 2,700,000 adults, of whom 170,000 are new members, induced to join following the institution of "Red Cross Day" in Japan. Between 1930 and 1933 the disaster sufferers who received aid from the Red Cross Society of Japan numbered 3,300. An activity not previously attempted in Japan—the institution of first aid posts on highways—was started during this period, four experimental posts being set up; and the success of this experience leads the Society to anticipate developing it on a nationwide scale. Besides this 1,300 new first aid chests have been distributed.

As examples of the health work of the Society may be cited the treatment given to 13,000 tuberculosis patients and to 36,000 expectant mothers. The statistics of consultations given in the Society's child health centres show 18,000 such consultations every year.

Nursing Schools Opened Two new nursing schools have been opened in connection with hospitals, and the number of the Society's nurses has risen by 1,100 to a total of 6,300. As from the year 1934 the educational standard for Red Cross nurses has been raised, and only girls who have finished secondary schools are admitted as probationers in Red Cross nursing schools.

The Junior Red Cross in Japan shows 1,200 new groups and 450,000

new members. The total Junior membership in the country is now over two million, divided among 7,300 groups. The active participation of the Japanese Juniors in disaster relief work is an important development to be noted. Since 1930 they have collected ¥37,000 for disaster victims and made 850,000 gifts in kind to disaster sufferers. As regards international school correspondence, the quality has continuously improved. The number of exchanges each year is about 2,000, and the countries with whom correspondence is carried on, has risen to 34.

The 15th International Red Cross Convention

The 15th International Red Cross Convention was held in October, 1934, in the Red Cross Building at Shiba Park, Tokyo. Delegates sent from overseas countries arrived in Japan in September and the early part of October.

Delegates Notable ones and those whose names were specially familiar to Japan were Mrs. John Allan Dougherty of Washington, D. C.; Judge John Barton Payne, chairman of the Red Cross of America and chairman of the Board of Governors of the League of Red Cross Societies; H.R.H. Charles Edward, Duke of Saxe-Coburg and Gotha and chief delegate of the German Red Cross; Dr. Rodolfo Espinosa, vice-President of Nicaragua; the Reverend W. Coleman Nevils, President of Georgetown University; Colonel Guillaume Favre, vice-President of the International Committee; H.E. Professor P. Nolf, President of the Belgian Red Cross, Lt.-General Sir Harold Fawcus, Director-General of the British Red Cross Society; Dame Rachel Crowdy, L.L.D. of England; Lt.-General J.C. Diehl, lately Director of the Medical Services of the Army of

the Netherlands; Phya Rajanakul, Secretary-General of the Siamese Red Cross; Baron E. Stjernstedt, Secretary-General of the Swedish Red Cross; and Mr. Christian Rakowsky of the U.S.S.R. Fifty-seven nations were represented by 247 delegates, most of them being specially sent for the occasion, the U.S.A. led in number with 57.

On October 16, most of the delegates attended the 42nd National Convention of the Red Cross Society of Japan held in the Constitution Memorial Hall in Gondahara, Tokyo. In the presence of the Empress 13,000 delegates and guests from all over the country were gathered together and listened to the Imperial Message desiring a greater contribution of the Society toward the welfare of mankind.

Preliminary The business of the International Conference was inaugurated on October 17, with a meeting of the Executive Committee of the League of Red Cross Societies at the Japan Red Cross Headquarters, Shiba, Tokyo, and on the 18th the Board of Governors unanimously adopted a resolution inviting the alliance of the Red Cross and the Red Crescent Societies of the Union of the U.S.S.R. to the League by the motion made by Prince Iyesato Tokugawa, thus bringing the total membership to 61 national societies. On the 19th, the Board of Governors and the Board of Delegates discussed many matters of importance such as official acceptance by Soviet Russia of the invitation, acceptance of the financial report of the League presented by Mr. Ernest J. Swift, Secretary-General, and of the budget of 2,500,000 francs for 1935, election of Colonel Guillaume Favre, Vice-President of the International Red Cross Committee, and Dr. J. Max Olano, President of the Salvador Red Cross,

as President and Vice-President respectively of the Board of Delegates, recommendation of the appointment of Prince Iyesato Tokugawa as President of the 15th International Conference, and a proposal by Marquis Jose Valdey of Spain, with the agreement of the Board of Delegates, to name Madrid as the seat of the 16th International Red Cross Conference in 1938.

Opening Session In the presence of Imperial Prince Kanin, and with Premier Okada and other Cabinet members in attendance, the opening session of the Conference was held in the Japan Red Cross building at Shiba, Tokyo, on October 20. The meeting was opened with Prince Tokugawa's welcoming address; Field-Marshal Imperial Prince Kanin then read the Imperial Message of the Empress. Other speakers of the day were Colonel Favre, Professor Nolf and Judge Payne. During the first plenary session vice-presidents, the secretary-general and secretaries of the Conference were elected.

On October 22, the second plenary session was convened and significant among the points taken up were the general report of the Committee, the report on the funds, adoption by the body of a resolution giving approval to the Council of the Red Cross Committee Foundation inviting governments which are parties to the Geneva Convention to grant the Foundation subventions sufficient to increase the endowment, and a general report of the League of Red Cross Societies. The International Committee's report stated that national societies are advised to redouble their vigilance to prevent abuses of the Red Cross emblem. In the past four years the research service of the Committee had handled 2,019 cases for its members and many more for other organizations and official bodies. The report said in

conclusion that the International Committee was labouring under the difficulty of insufficient funds to pursue its numerous activities. The Marquis de Casa Valdes moved that full approval be given to the constitution of the foundation to place the International Committee on a sound financial basis, and suggested the advantages of capital contributions over annual dues and that if all the members of every national society could contribute a cent the Committee's finances would be placed on a stable basis. The resolution was approved by the Conference.

In the course of the general report the importance of the Junior Red Cross was emphasized. In the afternoon session the Russian delegate delivered a speech on the duty of the Red Cross to make every effort to prevent war, and introduced a resolution.

The third plenary session, on October 25, unanimously approved 13 resolutions, presented by Commissions.

Welcome by the Japan Junior Red Cross In the afternoon of October 25, five thousand boys and girls of the Japan Junior Red Cross from every school district in Japan gathered in the Hibiya Amphitheatre to honour the delegates to the Conference. Their motto for the day was "The Red Cross of Tomorrow Welcomes the Red Cross of To-day". It was the first of its kind ever held at an International Red Cross Conference. Every delegation of young Red Cross workers brought gifts from its section of the country and colour prints, scroll paintings, wood carvings and dolls were given to the delegates. Miss Yoshiko Oishi of the First Higher Elementary School of Kyoto sounded the keynote of the gathering when she said, "We are eager to do whatever we can to make the world brighter; to help

relieve the suffering of the world. We realize that very soon the young people of to-day will be sharing the responsibilities that are now upon your shoulders. We want to ask you to help us so that we can all work together with new courage and new faith." The singing of "The Red Cross of Japan" and enthusiastic "Banzai" with which the bright-faced boys and girls bid farewell seemed to leave a lasting impression upon the hearts of the delegates.

October 26 was the last business day of the Conference which passed all the resolutions proposed by the Commissions, the number of resolutions passed reaching 35 in all.

Closing Meeting The closing meeting was held on October 29 and the delegate decided, by an unanimous vote, to have the sixteenth International Red Cross Conference at Madrid, Spain in 1938. Prince Iyetsato Tokugawa reported the Empress' donation of ¥100,000, and the Conference ended with a record of having emphasized more than any previous meeting the importance of the Red Cross as a factor in the improvement of international relations.

Resolutions Important resolutions adopted were as follows: -

Resolution on the Junior Red Cross

The Fifteenth International Red Cross Conference,

Expressing its satisfaction with the development of the Junior Red Cross, which is playing an increasingly important part in the physical and moral training of boys and girls and constitutes a valuable pledge for the future of the Red Cross movement throughout the world;

Considering that the creation of a Junior Section in each national Red Cross Society is the first step which should be taken in establishing the Junior Red Cross, and that each such Section should aim at enrolling all primary and secondary school pupils in the country;

Considering also that most national Societies now have Junior Sections, and that they have

been able to judge of the value of the activities of these Sections for the Red Cross as a whole;

Recommends that the national Societies support and extend the activities of their Junior Sections by all the means at their disposal and that Societies which have not already done so organize Junior Sections without delay, in conformity with the directions given in the XIVth Circular of the International Red Cross Committee and the League of Red Cross Societies, basing themselves upon the experience of other Societies and upon the advice of the League Secretariat.

Resolution Against Poisonous Warfare

While noting that since the Fourteenth Conference the number of Governments which have ratified the Geneva Protocol of June 17th, 1925, concerning the prohibition of the use in war of asphyxiating poisonous or similar gases, and of bacteriological methods of warfare, has considerably increased;

Recommends that the International Red Cross Committee continue its endeavours to secure the ratification of the said Protocol, or adhesion to the said Protocol, by all countries which are parties to the Geneva Convention,

Thanks the International Committee for the initiative which it has taken in order to develop in time of peace and in time of war measures for the protection of civilian populations against poisonous gas.

Expresses the hope that the International Committee will be placed in the position to continue the technical investigations which it has already undertaken in spite of the difficulties of all kinds confronting it.

Approves the activities of the Documentation Centre, and invites national Societies to give their financial assistance to the International Committee in order to contribute to the development of this centre.

Notes the conclusions of the International Commission of Jurists of 1931, and expresses the hope that the studies of this Commission will be continued with a view to finding means for the legal protection of the civilian population against the dangers of aerial warfare in its various forms.

Resolution on Conflicts Without Declaration of War

Having taken cognizance of the report of the International Red Cross Committee,

Considering the regrettable consequences which might result from a too literal interpretation of the Geneva Conventions and of the Convention relative to the Treatment of Prisoners of war of July 27th, 1929, in the event of military, naval or air operations unaccompanied by a declaration of war,

Considering that these operations, whatever

may be their interpretation in international law, their motives or their purposes, cause the same destruction as declared wars.

Expresses the hope that the said Conventions which have been established for the circumstances of a declared war, will also be applied by analogy in the case of armed conflicts between States without declaration of war.

Resolution on the Progress of I. R. C.

Noting with approval that during the past four years the number of national Red Cross Societies and the aggregate of their membership have continued to show progressive increase.

Expresses its appreciation to all who have contributed to strengthen the movement by their leadership, both in the national and in the international field.

Expresses the hope that this development will continue, and in particular that the Red Cross Societies of countries possessing overseas dependencies or administering Mandated Territories will continue to give special attention to the possibilities which the Red Cross offers as a means of protecting the health and improving the conditions of subject populations.

Requests the International Red Cross Committee to study, jointly with the Secretariat of the League of Red Cross Societies, the question of Red Cross development in Territories under Mandate, and to transmit to the National Societies concerned their recommendations, regarding the lines upon which Red Cross development in such territories can best be stimulated.

And recognizing that regional Red Cross Conferences are of outstanding value during a period characterized by an important evolution in Red Cross work which is occurring as the result of changes in social and economic conditions, expresses the hope that the League of Red Cross Societies will go forward with its regular programme of regional conferences in close consultation with the national Societies concerned in each case.

Resolution on an Antiwarfare Movement

Having regard to the resolution of earlier International Red Cross Conferences, and especially to the resolutions numbered 7 of the Eleventh (Geneva) and 25 of the Fourteenth (Brussels) International Conference, declaring that the Red Cross, without losing sight of its usual wartime and peacetime activities, must exert every effort, within the sphere of its attributions, to prevent war,

And considering that the progress made in the technique of warfare creates ever increasing difficulties of the Red Cross,

Expresses the wish that all national Red Cross Societies, while continuing, as during

the past, to spare no effort in order to safeguard the lives of millions of men, to protect other millions from suffering and privations, as well as to prevent catastrophes which threaten to destroy the intellectual and material wealth accumulated through the centuries, amplify their action against war and in favour of a better understanding between nations by every means at their disposal.

The members of the Standing Commission for 1934-38, which will prepare the groundwork for the 16th International Red Cross Conference in 1938, are Prince Iyesato Tokugawa of Japan, Sir Arthur Stanley of Great Britain, Lieutenant-General Ricardo Burguete of Spain, Refik

Bey of Turkey and Dr. Alvaro Turino of Brazil. All of the members are Presidents of their respective national Red Cross Societies.

The Budget for 1934 was brought down from \$230,000 (5¼ million French francs, the figure authorized in Brussels for the year 1931) to 105,500 Gold Dollars (2,637,500 French francs).

The League Headquarters was changed from 2, Avenue Velasquez, to a new building in Paris at 12, rue Newton, near the Place de l'Etoile.

CHAPTER XXXI

LABOUR AND LABOUR MOVEMENTS

Labour

Vocational Classification

Statistics classifying the population according to the kinds of work done can be obtained only from the Report of the National Census of 1920. (A tentative report based on the 1930 census is given in Chapter II.) According to the census report the people in Japan proper may be classified according to their occupations as follows:

Occupation	Number	Percentage of whole
Farming	27,138,251	48.5
Marine industry	1,449,674	2.6
Mining	937,525	1.7
Industry	10,737,940	19.2
Commerce	7,312,593	13.1
Transport	2,549,472	4.5
Public service (Casual)	3,208,355	5.7
Miscellaneous	1,091,275	1.9
Domestic service	40,425	0.1
Unoccupied	1,497,543	2.7
Total	55,963,053	100.

According to the investigation made by the Labour Section of the

Bureau of Social Affairs the classifications of labourers according to kinds of occupation at the end of 1934 was as follows:

Factory workers	2,539,384
Mine workers	247,186
Transport and communication, day-labourers and others	2,977,707
Total	5,764,277
Male	4,066,322
Female	1,697,955

Labour Conditions

Factories and Labourers The number of factories where more than 5 operatives are employed, in Japan proper in 1914 was 31,717. It was more than doubled in 20 years, the figure for the end of 1933 being 71,940.

The number of factory labourers in 1933 was 1,901,091 (967,659 males, 933,432 females), gaining 167,580 or 9.7 per cent. over the previous year. Classification of the same according to kinds of industry follows:

	Number	Percentage	Sex distribution	
			Male	Female
Textile industry	907,631	47.8	170,581(18.8%)	737,050(81.2%)
Metal industry	125,652	6.6	115,602(92.1%)	10,050 (7.9%)
Manufacturing of machines, tools, etc.	249,323	13.1	228,540(91.7%)	20,783(8.30%)
Ceramic industry	71,195	3.8	57,930(81.4%)	13,265(18.6%)
Chemical industry	163,706	8.6	106,272(64.9%)	57,434(35.1%)
Lumber industry and making of wooden manufactures	66,439	3.5	60,815(91.5%)	5,624 (8.5%)
Printing and binding	53,679	2.8	47,531(88.5%)	6,148(11.5%)
Food stuff industry	142,237	7.5	117,638(82.7%)	24,599(17.3%)
Gas and electric industry	8,320	0.4	8,257(99.2%)	63 (0.8%)
Miscellaneous industry	112,909	5.9	54,493(48.3%)	58,416(51.7%)
Total	1,901,091	100	967,659(50.9%)	933,432 (4.0%)

	Age distribution		
	Under 16	16-49	Above 50
Textile industry	149,716(16.5%)	749,481(82.6%)	84,34(0.9%)
Metal industry	2,782 (2.2%)	119,718(95.3%)	3,152(2.5%)

	Age distribution		
	Under 16	16-49	Above 50
Manufacturing of machines, tools, etc.	9,559(3.8%)	233,951(93.9%)	5,813(2.3%)
Ceramic industry	2,556(3.6%)	65,371(91.8%)	3,268(4.6%)
Chemical industry	7,259(4.4%)	152,185(93.0%)	4,262(2.6%)
Lumber industry and making of wooden manufactures	1,839(2.8%)	62,145(93.5%)	2,455(3.7%)
Printing and binding	2,389(4.4%)	50,128(93.4%)	1,162(2.2%)
Foodstuff industry	2,421(1.7%)	135,868(95.5%)	3,948(2.8%)
Gas and electric industry	5(0.1%)	8,003(96.2%)	312(3.7%)
Miscellaneous industry	7,109(6.4%)	103,298(91.5%)	2,412(2.1%)
Total	195,725(9.8%)	1,680,148(88.4%)	35,218(1.8%)

In 1933 the industrial world was rather active in general with the unusual expansion of Japan's foreign trade. The percentage of employment and income of labourers showed an increase; and together with the general cry for patriotism or Japan Spirit which put down the power of the left movements of labour unions these conditions naturally led labour controversies to reduce in number, and capital and labour seemed to be in a harmonious relation.

The real wage or real value of labourer's income, however, went down on the contrary and their living condition has hardly improved in any material degree.

Employment and Unemployment According to the survey of the Bank of Japan the index number of employment began to rise since the beginning of 1932, and in October, 1934 it was 94.1 increasing 9.8 per cent., as compared with the same month of the previous year. It arose to

95.8 in January, 1935.

The number of unemployment at the end of 1934 was 360,000 or 4.80 per cent. of 7,517,000, the total number of salaried men and labourers among whom the investigation was made. It is 18,000 less than in the previous year while the percentage is 0.31 lower. Details follow:

	Number of unemployment	Percentage of unemployment
Salarymen	67,000	3.88
Day labourers	176,000	9.89
Others	116,000	2.92
Total	359,000	4.80

Wages According to the investigation made by the Department of Commerce and Industry the average wage of factory labourers per hour was 12 sen, in 1933. The cheapest was 7 sen of textile industry labourers who contain a large number of women and juvenile workers, as shown in the above table. Details follow:

	Aggregate labour hours	Total amount of wage (in yen)	per hour wage (in sen)
Textile industry	2,599,851,096	190,767,980	7
Metal industry	372,269,184	71,512,314	19
Manufacturing of machines, tools, etc.	750,924,389	153,327,587	20
Ceramic industry	197,125,497	28,199,958	14
Chemical industry	479,950,976	66,440,693	14
Lumber industry and making of wooden manufactures	188,890,613	24,003,488	13
Printing and binding	164,578,811	33,937,592	21
Foodstuff industry	302,897,411	40,170,083	13
Gas and electric industry	33,402,376	7,230,556	22

	Aggregate labour hours	Total amount of wage (in yen)	per hour wage (in sen)
Miscellaneous industry	310,271,021	31,749,943	10
Total and average	5,400,161,374	647,340,199	12

AVERAGE DAILY WAGES OF LABOURERS

(In 13 largest cities)

(Compiled by the Department of Commerce and Industry)

Kind of employment	(In Yen)					
	1929	1930	1931	1932	1933	1934 (December)
Textile industry:						
Silk-reeler (Female)	0.97	0.85	0.75	0.67	0.67	0.65
Cotton-spinner (Female)	1.17	1.07	0.89	0.79	0.75	0.67
Silk-thrower (Female)	0.88	0.81	0.78	0.76	0.77	0.64
Cotton-weaver (Machine) (Female)	0.99	0.87	0.76	0.70	0.67	0.65
Silk-weaver (Hand) (Female)	0.99	0.84	0.81	0.78	0.80	0.82
Hosiery-knitter (Male)	1.63	1.60	1.49	1.45	1.45	1.64
" " (Female)	0.91	0.82	0.76	0.72	0.72	0.72
Manufacturing of metal, machine and tool:						
Lath-man	2.32	2.18	2.04	2.13	2.25	2.66
Finisher	2.33	2.16	2.14	2.14	2.28	2.61
Founder	2.35	2.19	2.01	2.08	2.18	3.09
Blacksmith	2.29	2.11	2.04	2.08	2.23	2.52
Wooden-pattern maker	2.43	2.32	2.17	2.16	2.30	2.79
Ceramic industry:						
Potter	1.92	1.87	1.81	1.70	1.74	1.39
Glass-maker	2.09	1.96	1.80	1.73	1.70	1.67
Cement-maker	2.06	2.13	2.07	2.10	2.12	2.03
Brick-maker (Shape)	1.64	1.42	1.14	1.09	1.15	1.35
Tile-maker (Shape)	1.77	1.59	1.40	1.29	1.33	1.63
Chemical industry:						
Medicine-worker	1.67	1.71	1.87	1.91	1.77	2.09
Match-maker (Male)	1.47	1.42	1.26	1.17	1.07	1.08
" " (Female)	0.68	0.65	0.59	0.54	0.49	0.53
Oil-presser	1.92	1.78	1.58	1.61	1.63	1.96
Japanese-paper maker	1.51	1.47	1.46	1.45	1.40	1.51
Foreign-style paper maker	1.75	1.76	1.72	1.68	1.68	1.72
Leather-maker	2.28	2.05	1.97	1.92	2.00	2.46
Foodstuff industry:						
Flour-miller	1.87	1.79	1.62	1.62	1.64	1.88
Saké-brewery worker	1.93	1.92	1.78	1.64	1.79	1.50
Soy-brewery worker	1.87	1.74	1.58	1.54	1.53	1.46
Sugar-refinery worker	2.12	2.17	2.08	2.07	2.06	2.38
Confectioner	1.53	1.50	1.41	1.40	1.44	1.47
Canner	1.68	1.70	1.64	1.53	1.54	1.21
Clothing manufacturing:						
Tailor (for European dress)	2.44	2.14	2.03	2.00	1.89	2.11
Shoe-maker	2.36	2.13	1.85	1.74	1.76	1.32
Wooden-clogs maker	1.83	1.61	1.40	1.38	1.41	1.49
Engineering and construction works:						
Carpenter	2.77	2.49	2.14	1.98	1.88	1.92
Plasterer	3.07	2.66	2.32	2.19	2.13	2.11
Stone-mason	3.23	2.92	2.50	2.36	2.26	2.35
Brick-layer	3.12	2.87	2.56	2.38	2.31	2.31
Roofing-tile layer	3.32	2.92	2.49	2.38	2.31	2.40
Painter	2.76	2.54	2.28	2.14	2.12	2.10
Wood and bamboo works:						
Sawyer (Machine)	2.22	2.04	1.82	1.72	1.65	1.57
Joiner	2.32	2.15	1.92	1.80	1.80	1.87
Lacquerer	2.08	1.87	1.70	1.63	1.61	1.68

LABOUR AND LABOUR MOVEMENTS

Kind of employment	1929	1930	1931	1932	1933	1934 (December)
Rope-maker	1.58	1.50	1.47	1.39	1.40	—
Floor-mat maker	2.56	2.36	2.03	1.95	1.90	2.18
Printing and book binding:						
Compositor	2.38	2.36	2.27	2.17	2.14	2.43
Book-binder	2.06	1.88	1.75	1.69	1.70	1.85
Stevedore and daily labourer:						
Stevedore	2.32	2.12	2.02	1.89	1.90	2.18
Daily labourer (Male)	1.93	1.63	1.40	1.30	1.28	1.30
" " (Female)	0.99	0.83	0.75	0.73	0.74	1.77
Fisherman:	1.74	1.66	1.55	1.47	1.44	—
Domestic employee:						
Male servant (monthly contract)	16.21	14.26	12.59	12.11	12.23	—
Maid servant (" ")	12.30	11.51	10.24	9.58	9.74	—

AVERAGE DAILY WAGES OF WORKERS EMPLOYED IN FARMING
AND SERICULTURE PRODUCTION

(In Yen)

Wages of Workers Employed in Farming										
	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
General index numbers	96	99	93	94	92	87	95	58	52	54
Workers by the year										
Male										
Actual	0.73	0.78	0.74	0.71	0.66	0.66	0.57	0.47	0.42	0.44
Index numbers	95	101	96	92	86	86	74	61	54	57
Female										
Actual	0.53	0.56	0.53	0.51	0.46	0.48	0.41	0.33	0.29	0.32
Index numbers	93	98	93	89	81	84	72	58	51	56
Workers by the season										
Male										
Actual	1.44	1.53	1.45	1.42	1.43	1.45	1.25	0.95	0.85	0.89
Index numbers	89	94	90	88	88	90	77	59	52	55
Female										
Actual	1.20	1.23	1.17	1.12	1.13	1.08	0.96	0.72	0.66	0.69
Index numbers	94	96	91	88	88	84	75	56	51	53
Workers by the day										
Male										
Actual	1.52	1.51	1.42	1.53	1.44	1.35	1.14	0.86	0.77	0.79
Index numbers	100	99	93	101	95	89	75	57	51	52
Female										
Actual	1.18	1.21	1.10	1.24	1.28	1.03	0.87	0.64	0.55	0.57
Index numbers	103	105	96	108	111	90	76	56	48	50

N. B. The investigation refers to the facts in the districts selected as most suitable for the purpose. Wages per day are calculated by averaging wages, and amount paid in kind are estimated by equivalent money value. Average is calculated by means of simple arithmetical average. Base: 1921-23=100

Wages of Workers Employed in Sericulture										
	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
General index numbers	166	120	120	97	96	98	74	61	56	59
Workers by the year										
Male										
Actual	1.20	1.20	1.29	1.07	0.99	0.94	0.73	0.59	0.53	0.58
Index numbers	124	122	139	115	106	101	78	63	57	62
Female										
Actual	0.90	0.90	0.86	0.69	0.73	0.72	0.51	0.33	0.37	0.41
Index numbers	127	121	121	97	103	101	72	54	52	53

AVERAGE DAILY WAGES

Year	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Workers by the season										
Male										
Actual	1.54	1.69	16.7	1.34	1.26	1.32	1.05	0.89	0.81	0.86
Index numbers	109	120	118	95	89	94	74	63	57	61
Female										
Actual	1.09	1.34	1.24	0.99	0.93	1.01	0.84	0.67	0.62	0.65
Index numbers	104	128	128	94	89	96	80	64	59	62
Workers by the day										
Male										
Actual	1.68	1.78	1.80	1.46	1.50	1.52	1.09	0.93	0.86	0.89
Index numbers	104	111	112	91	93	94	68	58	58	55
Female										
Actual	1.24	1.41	1.37	1.07	1.17	1.21	0.85	0.73	0.67	0.69
Index numbers	103	118	114	89	98	101	71	61	56	58

N. B. Base: 1921-1923=100.

AVERAGE DAILY WAGES OF MINERS

(In Yen)

	1929	1930	1931	1932	1933
Mineral mines					
In the shafts					
{ Male	2.10	2.04	1.85	1.72	1.77
{ Female	0.86	0.84	0.76	0.73	0.73
Out of the shafts					
{ Male	1.90	1.79	1.62	1.55	1.64
{ Female	0.72	0.70	0.65	0.61	0.63
Average	1.86	1.78	1.63	1.54	1.62
Coal mines					
In the shafts					
{ Male	2.05	1.90	1.63	1.53	1.65
{ Female	1.66	1.48	1.12	0.95	0.96
Out of the shafts					
{ Male	1.52	1.44	1.36	1.31	1.38
{ Female	0.75	0.73	0.67	0.63	0.65
Average	1.79	1.68	1.48	1.40	1.51
Oil-fields					
In the field					
{ Male	1.81	1.74	1.67	1.64	1.67
{ Female	0.83	0.83	0.82	0.82	0.83
Average	1.76	1.69	1.62	1.60	1.63
Other mines					
In the pits					
{ Male	2.21	2.11	1.82	1.72	1.68
{ Female	1.04	1.25	0.91	0.80	0.69
Out of the pits					
{ Male	1.91	1.81	1.63	1.61	1.61
{ Female	0.90	0.85	0.70	0.65	0.63
Average	1.90	1.82	1.62	1.57	1.56
General Average	1.81	1.70	1.52	1.45	1.54
Male	1.91	1.80	1.60	1.52	1.61
Female	1.17	1.03	0.78	0.69	0.68

AVERAGE DAILY WAGES OF EMPLOYEES ON FISHING BOATS AND VESSELS

(In Yen)

	1929	1930	1931	1932	1933
General average					
Actual	1.89	1.78	1.38	1.26	1.23
Index numbers	81	77	59	53	53
Engineer	2.21	1.92	1.56	1.44	1.30
Captain	2.46	2.66	1.46	1.33	1.35
Coxswain	1.91	1.90	1.70	1.63	1.57
Oiler	1.74	1.41	1.22	1.07	0.98
Sailor	1.52	1.42	1.10	0.87	0.78
Fisherman	1.50	1.34	1.20	1.08	1.01

N. B. The investigation refers to the facts according to the principal categories of fishing in the districts selected as representative. Base: 1926-1928=100.

The index number of labourers' wages was still falling, according to the survey by the Department of Commerce and Industry on the average wage of the labourers in the 13 largest cities in 1933. The index number in 1933 was 82.3 or 0.4 per cent. lower than in the previous year,

and was the lowest record since 1921. The 1934 index number has shown a reaction and is 82.8 or 0.5 per cent. higher than in the previous year. (The average wage in the period 1921-1923 is taken as 100.) The downward steps of the past ten years are shown below :

INDEX NUMBER OF WAGES

(Compiled by the Department of Commerce and Industry)

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Textile industry :										
Silk-reeler (Female)	100	102	101	95	95	100	89	79	72	73
Cotton-spinner (Female)	100	107	110	107	105	108	98	83	73	69
Silk-thrower (Female)	102	99	104	101	98	100	92	88	87	88
Cotton-weaver (Machine) (Female)	100	100	107	104	104	101	90	79	70	67
Silk-weaver (Hand) (Female)	98	97	98	98	102	93	81	73	72	75
Hosiery-knitter (Male)	104	101	99	101	100	101	99	94	90	88
" " (Female)	108	105	93	100	99	107	93	90	84	84
Average	101.7	101.6	101.7	100.9	100.4	101.4	92.4	83.7	78.3	77.7
Manufacturing of metal, machine & tool :										
Lath-man	103	102	102	102	101	99	93	85	87	90
Finisher	106	102	102	103	102	99	95	87	87	91
Founder	101	100	102	103	105	104	96	85	87	90
Blacksmith	104	103	105	107	106	105	97	91	92	98
Wooden-pattern maker	103	103	103	104	104	104	99	87	86	91
Average	103.4	102.0	102.8	103.8	103.6	102.2	96.0	87.0	87.8	92.0
Ceramic industry :										
Potter	100	102	107	104	99	96	95	90	86	88
Glass-maker	110	108	107	107	106	103	102	93	90	88
Cement-maker	99	96	97	98	100	101	107	104	106	107
Brick-maker (Shape)	103	98	100	113	110	93	82	63	66	69
Tile-maker (Shape)	97	97	96	95	95	87	77	64	58	59
Average	101.8	100.2	101.4	103.4	102.0	97.0	92.6	82.8	81.2	82.2
Chemical industry :										
Medicine-worker	98	100	112	107	109	113	113	116	118	109
Match-maker (Male)	95	92	90	80	84	85	83	75	69	63
" " (Female)	90	85	82	84	87	88	84	76	69	63
Oil-presser	112	102	101	100	100	101	93	82	83	84
Japanese-paper maker	103	99	106	105	111	113	110	110	109	103
Foreign-style paper maker	103	102	102	102	106	109	110	107	104	104
Leather-maker	104	103	100	95	95	97	85	78	70	76
Average	100.7	97.6	99.0	96.1	98.9	100.9	96.9	92.0	88.9	86.0
Foodstuff industry :										
Flour-miller	108	106	106	106	112	114	109	98	98	99
Saké-brewery worker	104	105	103	99	98	96	95	88	80	84
Soy-brewery worker	111	118	120	114	113	115	108	99	97	95
Sugar-refinery worker	111	115	119	114	114	123	125	120	119	119
Confectioner	108	109	104	100	95	93	92	86	86	87
Canner	106	113	99	96	100	101	100	97	89	90
Average	108.0	111.0	108.5	104.8	105.3	107.0	104.8	98.0	94.8	95.7
Clothing manufacturing :										
Tailor (for European dress)	107	100	96	96	101	99	87	82	82	80
Shoe-maker	110	108	107	104	105	104	98	84	80	81
Wooden-clogs maker	104	100	97	94	94	95	84	73	73	74
Average	107.0	102.7	100.0	98.0	100.0	99.8	89.7	79.7	78.3	78.3

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Engineering and construction work :										
Carpenter	109	105	103	102	100	98	88	75	69	66
Plasterer	110	109	108	107	105	104	90	78	75	71
Stone-mason	105	103	102	101	98	96	87	74	70	66
Brick-layer	104	101	100	99	96	95	87	78	72	70
Roofing-tile layer	110	103	103	101	100	99	87	74	71	69
Painter	110	110	110	103	109	107	98	88	83	82
Average	108.0	105.2	104.3	103.0	101.3	99.8	89.5	77.8	73.3	70.7
Wood and bamboo works :										
Sawyer (Machine)	106	102	101	100	100	97	89	80	75	72
Joiner	111	106	101	98	98	95	88	79	74	74
Lacquerer	109	110	108	102	107	108	95	86	83	82
Rope-maker	112	108	111	114	110	109	104	93	86	88
Floor-mat maker	104	107	105	106	107	106	97	83	81	78
Average	108.8	106.6	105.2	104.0	104.4	103.0	94.6	84.2	79.8	78.8
Printing and book-binding :										
Compositor	102	105	106	107	111	112	111	106	101	100
Book-binder	102	105	104	104	104	103	95	88	85	86
Average	102.0	105.0	105.0	105.5	107.5	107.5	103.0	97.0	93.0	93.0
Stevadore and daily labourer :										
Stevadore	103	98	94	92	93	91	82	78	73	74
Daily labourer (Male)	103	102	99	95	94	92	78	67	62	61
" " (Female)	106	105	103	98	96	91	77	68	66	67
Average	104.0	101.7	98.7	95.0	94.3	91.3	79.0	71.0	67.0	67.3
Fisherman	94.0	93.7	94.7	99.8	114.7	111.3	105.2	97.8	92.5	88.8
Domestic employee :										
Male servant	98	97	102	102	103	101	89	79	77	77
Maid servant	103	102	109	105	107	105	98	87	82	83
average	100.5	99.5	105.5	103.5	105.0	103.0	93.5	83.0	79.5	80.0
Total Average	104.1	102.9	102.7	101.5	102.1	101.4	94.4	85.9	82.6	82.3

Comparison of Wage and Price The true valuation of wages has to be derived out of the comparison between wages and prices. The following tables compiled by the Department of Commerce and Industry

are given for such comparison. Upon reading the table it may be said that wages go fairly well with prices in general, with the only exception in 1933. (See Chapter X for prices.)

STATUS OF THE INDEX NUMBER OF WAGE AGAINST THAT OF PRICE, 1930-1934

(December, 1929=100)

		Wage	Wholesale price	Retail price	Real Value of Wage	
					Wage+Wholesale price × 100	Wage+Retail price × 100
1930	Average	95.2	87.7	91.1	108.6	104.5
1931	"	86.8	74.0	79.4	117.3	109.3
1932	"	83.7	81.0	79.7	103.3	105.0
1933	"	83.8	95.4	87.1	87.8	96.2
1933	Dec.	84.4	94.4	87.5	89.4	96.5
1934	Jan.	83.0	94.6	87.9	87.7	94.4
	Feb.	83.3	95.5	88.2	87.2	94.4
	March	83.5	95.3	88.6	87.6	94.2
	April	84.0	95.1	88.9	88.3	94.5
	May	84.1	95.2	88.6	88.3	94.9
	June	84.1	95.0	86.1	88.5	97.7
	July	83.9	95.0	87.2	88.3	96.2

1934		Wage	Wholesale price	Retail price	Real Value of Wage	
					Wage+Whole-sale price×100	Wage+Retail price×100
	Aug.	83.8	95.0	88.7	87.3	94.5
	Sept.	84.6	98.3	89.1	86.1	94.9
	Oct.	84.6	99.2	90.9	85.3	93.1
	Nov.	84.8	97.7	89.4	85.8	94.9
	Dec.	85.7	97.5	89.3	87.9	96.0

Working Hours The working hours are being reduced at least legally. After July, 1929, night work for women and children was abolished in factories under control of the Factory Law, and the hours were shortened in the spinning and weaving industries. By the revision of the Factory Law in the same year, the limitation of hours was also enforced in such factories as employ 10 workers or less. Moreover, the 11 hour day in the silk industry was changed to one of 10 on July 1, 1930. Thus the hours are legally decreasing,

but as a matter of fact, there is not much actual shortening, for grown up men work beyond the regular hours for additional wages, while factory owners often dismiss regular labourers and hire cheaper day labourers, or as an alternative require the regular men to do extra work. The average number of working hours in factories in 1933 was 11 per day with 0.55 hour of recess included.

Labour Calamities and Mortality In 1932 the number of labourers injured while at work in factories was 39,107 and deaths numbered 277.

CALAMITIES IN FACTORIES IN 1932

	Death	Severely wounded	wounded	Total
Private factories				
Textile industry	37	1,185	4,132	5,354
Machine, tools, etc.	75	3,591	13,358	17,024
Chemical industry	51	1,442	4,636	6,129
Food stuff ..	8	230	637	875
Miscellaneous industry	42	1,237	2,300	3,579
Special factories .	37	249	373	659
Total	250	7,934	25,436	33,620
Government factories	27	1,497	3,963	5,487
Grand total	277	9,431	29,399	39,107

RATE OF CALAMITIES PER 1,000 OPERATIVES IN 1931 AND 1932

	Death		Severely Wounded		Wounded		Total	
	1931	1932	1931	1932	1931	1932	1931	1932
Private factories								
Textile industry	0.04	0.04	1.42	1.28	4.51	4.46	5.97	5.78
Machine, tools, etc.	0.31	0.28	13.22	13.44	56.39	49.99	69.92	63.72
Chemical industry	0.38	0.26	7.38	7.29	26.61	23.44	34.37	30.99
Food stuff ..	0.39	0.10	3.70	2.90	9.85	8.03	13.94	11.04
Miscellaneous industry	0.26	0.24	6.74	7.20	13.31	13.39	20.31	20.84
Special factories	1.00	1.52	9.97	10.24	24.63	15.34	35.61	27.10
Total	0.17	0.15	4.61	4.76	16.12	15.26	20.90	20.17
Government factories	0.27	0.23	18.94	12.76	38.05	33.77	52.26	46.76
Grand total	0.17	0.16	5.22	5.29	17.54	16.48	22.94	21.92

In 1933 the number of calamities in the mines was 66,929 with casualties of 67,173 people, death num-

bered 803, increasing in all items as compared with the previous year.

CALAMITIES IN MINES 1922-1932

Year	Cases	Deaths	Wounded	Total of casualties
1923	186,963	741	187,870	188,611
1924	175,080	903	175,702	176,605
1925	187,026	786	187,515	188,301
1926	158,332	801	158,468	159,269
1927	163,108	1,002	163,593	164,595
1928	142,035	891	141,974	142,865
1929	129,649	964	129,419	130,383
1930	107,346	874	79,893	107,710
1931	78,310	694	56,328	78,649
1932	65,724	686	46,846	66,060
1933	66,929	833	46,370	67,173

Marine Accidents The number of fishing boats and vessels without engines wrecked in 1933 was 12,083 and that of vessels with engines 1,444, increasing 9,844 and 674 respectively as compared with the previous year. The number of crews wrecked with those boats and vessels was 5,829, in-

creasing 3,608 on the previous year. 714 of the total were perished or missing. The enormous increase of marine calamities in 1933 is largely due to the earthquake and tidal wave in March at the north-eastern shores (Sanriku districts) of the Main Island.

MARINE ACCIDENTS

	Total number of fishing boats and vessels	Fishing boats and vessels wrecked		Total number of fisher men	Crews on the wrecked boats and vessels		
		Without engine	With engine		Perished	Survived	Total
1924	361,230	875	134	1,115,480	518	2,242	2,760
1925	356,920	835	171	1,116,565	618	2,631	3,249
1926	350,943	977	289	1,112,435	606	2,763	3,369
1927	354,554	1,788	332	1,125,983	520	3,723	4,243
1928	360,126	1,683	454	1,130,430	472	2,749	3,221
1929	359,961	1,141	362	1,112,002	419	2,774	3,193
1930	359,295	2,578	619	1,109,700	479	2,871	3,350
1931	360,690	1,076	510	1,110,506	1,174	2,840	4,014
1932	360,686	2,239	770	1,106,850	569	1,652	2,221
1933	363,473	12,083	1,444	1,097,254	714	5,115	5,829

Labour Hygiene The hygienic equipment of factories is legally required, but its progress and improvement is rather slow and partial. In compliance with the requirements stated in the new ordinance on labour hygiene, factory managers are

endeavouring to make improvements under the guidance of the Government and prefectural authorities, and good results have been reported as to the health of factory labourers. (See Chapters on Agriculture, Fisheries, and Mining also.)

Labour Movements

Labour Disputes

According to the survey by the Bureau of Social Affairs the number of labour disputes in 1932 was

1,926 cases with 98,850 participants. The figures for 1933 were 1,897 and 116,733 respectively. The decrease in the number of cases is the result of a better labour condition in 1933

as mentioned above and the increasing influence of patriotic, harmonious labour unions who have taken the place of radical unions.

The characteristic nature of the 1933 disputes was in the increase of positive demands. In contrast

with the decrease of the number of negative implores for not to lower wages from 257 to 110 as compared with the previous year, demands for better wages increased from 354 to 576.

LABOUR DISPUTES

	1932 cases	1933 cases
Manufacturing of metal, machines and tools	259	251
Chemical industry	256	277
Textile industry	319	240
Foodstuff industry	52	73
Miscellaneous industries	266	261
Mine industry	55	52
Gas and electric industry	9	16
Transportation	236	215
Engineering and construction works	137	196
Communication	4	6
Others	333	308
Total	1,926	1,897
Participants	98,850	116,733

CASES CLASSIFIED ACCORDING TO DEMANDS

	1932	1933
Positive demands		
Increase of wages	354	576
Shorter hour	17	26
Holiday	3	4
Recognition of freedom of labour unions	6	7
On labour committees	0	0
Better equipments for labourers in factories	10	14
Rejection of overseers	24	45
Total	414	672
Negative demands		
Against lowering of wages	257	110
Against revision of working method, etc.	14	32
Against revision of the method of paying wages	81	103
For establishment or improvement of pension	263	255
Total	615	500
Others	897	725

NUMBER OF LABOUR DISPUTES ACCOMPANIED BY STRIKES, SABOTAGE OR LOCK-OUTS 1923-1932

Demand for	Recognition of freedom of labour unions	Against the reduction of wages	Increase of wages	Against the revision of the method of counting or paying of wages	Shorter hour
1923 { Cases	4	118	29	—	20
Men	2,507	15,303	2,446	—	1,702
1924 { Cases	4	134	30	32	14
Men	7,242	23,637	3,227	7,031	2,394
1925 { Cases	4	100	41	44	9
Men	631	7,903	6,245	5,226	942

Demand for	Recognition of freedom of labour unions	Against the reduction of wages	Increase of wages	Against the revision of the method of counting or paying of wages	Shorter hour
1926 { Cases	6	226	47	58	5
Men	2,041	14,610	4,643	20,683	718
1927 { Cases	13	94	60	36	8
Men	9,347	8,610	6,129	3,454	314
1928 { Cases	(1)8	(1)108	58	19	9
Men	467 (2,196)	16,252 (678)	4,762	1,645	625
1929 { Cases	6	91	129	45	10
Men	231	5,807	18,441	26,031	1,214
1930 { Cases	10	80	(3)288	(1)38	8
Men	591 (384)	8,045	33,628 (673)	3,222 (49)	214
1931 { Cases	(2)10	167	(4)213	55	18
Men	907 (884)	13,800	11,207 (651)	2,710	1,919
1932 { Cases	2	(2)194	(3)137	(1)50	(1)11
Men	565	14,416 (69)	6,968 (22)	4,197 (38)	956 (15)

Demand for	Establishment of holidays	Against the revision of working method or rule	Against the establishment or re-organization of labour committees	Better equipments	Establishment or increase of pension
1923 { Cases	—	—	1	17	17
Men	—	—	813	1,548	3,262
1924 { Cases	—	13	1	8	28
Men	—	393	17	1,487	3,254
1925 { Cases	—	5	—	10	11
Men	—	344	—	5,146	566
1926 { Cases	—	24	—	8	32
Men	—	3,476	—	3,280	2,380
1927 { Cases	1	2	—	7	28
Men	12	212	—	585	3,502
1928 { Cases	1	4	—	6	40
Men	100	51	—	2,408	2,672
1929 { Cases	1	20	—	3	(2)62
Men	219	2,082	—	94	5,143 (77)
1930 { Cases	1	11	—	4	(1)126
Men	7	1,772	—	167	5,035 (783)
1931 { Cases	—	10	—	6	(2)79
Men	—	242	—	968	2,915 (64)
1932 { Cases	1	6	—	6	53
Men	10	263	—	229	1,619

Demand for	Reappointment or against dismissal	Not to punish the leaders of disputes	Rejection of superintendents	Other	Total
1923 { Cases	—	—	18	48	270
Men	—	—	1,105	7,573	36,259
1924 { Cases	—	—	15	54	333
Men	—	—	1,431	4,413	54,526
1925 { Cases	—	—	16	53	293
Men	—	—	1,471	12,268	40,742
1926 { Cases	4	—	30	55	495
Men	39	—	2,974	12,390	67,234
1927 { Cases	53	—	37	45	383
Men	6,214	—	2,164	6,701	47,194

Demand for	Reappoint- ment or against dis- missal	Not to punish the leaders of disputes	Rejection of superinten- dents	Other	Total
1928 { Cases	30	4	(1)24	(1)82	(4)393
Men	5,260	118	1,098 (15)	7,879 (26)	43,337 (2,915)
1929 { Cases	(1)81	2	(1)25	(1)06	(5)71
Men	7,320 (40)	116	2,666 (35)	7,917 (11)	77,281 (163)
1930 { Cases	128	—	12	(1)195	(6)901
Men	9,702	—	975	16,466 (33)	79,824 (1,538)
1931 { Cases	(2)182	—	25	(4)219	(14)984
Men	11,128 (37)	—	1,616	15,893 (65)	63,305 (1,231)
1932 { Cases	(8)183	—	17	(8)210	(23)870
Men	9,240 (782)	—	1,070	13,805 (519)	53,338 (1,445)

Figures in parenthesis represent female cases or partakers.

Tenant Disputes

Tenant disputes which have become more and more numerous since 1927 increased enormously in 1930 and numbered 2,478 cases. This increased to 2,689 in 1931, and 2,763 in 1932. In 1933 the number reached to 2,677. Contrary to the increase of the number of cases the area involved and number of participants are decreased; that is, the disputes occur not so much on farm rent as on tenant rights. It should be also noted that the disputes by union movements are decreasing while those between individuals are

increasing. Important disputes in 1932 are 1,379 cases (62% of the total) on the return of tenanted land, 339 (15%) because of bad crops, 209 (9%) on the delayed payment of farm-rent. Strongest demands are 1,300 cases (59%) for the continuation of tenancy and 537 (24%) for the reduction of farm-rent. The increase of fundamental demands such as the continuation of tenancy and the recognition of tenant or long-term tenant rights reflects the profound land famine caused by the difficulty of farmers to leave farm land and the return of unemployed workers to villages.

TENANT DISPUTES CLASSIFIED ACCORDING TO CAUSES

	1931		1932	
	Cases	Percentage	Cases	Percentage
Raising of farm-rent	43	1.3	50	1.8
Payment of farm-rent	77	2.3	16	0.6
Bad crops caused by natural forces	1,171	34.3	741	26.9
High farm-rent	97	2.8	32	1.9
Lower price of farm products	240	7.0	46	1.7
Excessive cost of production	13	0.4	7	0.2
Meager income of tenant farmers	45	1.3	7	0.2
Disorder of farm-rent	1	0.1	2	0.1
Copying of method	96	2.8	24	0.9
Return of tenanted land	1,307	38.2	1,326	48.1
Arrearage of farm-rent	174	5.1	266	9.7
Others	153	4.4	219	6.9
Total	3,419	100.0	2,756	100.0

Outcome Of the 2,756 disputes in 1932 953 were left unsettled. Of the 1,803 settled ones 1,380 ended in com-

promise.

Tenant Disputes in 1934 According to an investigation made at the

Ministry of Agriculture and Forestry, the number of tenant disputes that occurred during the year 1934, was more than 4,500, majority cases of which being disputes arising out of the attempt on the part of landowners to take over their farms from the hands of tenant-farmers. Other causes of the disputes were bad crops, defaults in the payment of tenant fees, increased attempts on the part of landowners to farm the lands by themselves, sales or public

auction sales of the tillages without notice to the tenant-tillers and the consequent increase of tillage rent. A noticeable feature is the increased difficulties in the solution of the disputes. Another thing to be noted was the increased number of persons involved in the disputes, as compared with previous several years. The same tendency was seen in the sphere of territories affected by unseasonable heat or cold and typhoon and flood. Figures follow:

	1934 Number of cases	Increase over the Number in 1933	percentage of increase
Because of bad crops	986	432	78.0
Because of increase of rent	2,503	529	26.8
Defaults in the payment of rent	465	63	15.7
Others	630	176	38.8
Total	4,584	1,200	35.2
Number of landowners involved	19,503	7,867	67.6
Number of tenant-peasants involved	66,529	29,306	78.7

	Area of Farms Affected (Cho)	Area of Farms Affected (Cho)	
Rice-fields	86,783	18,327	99.3
Upland-farms	4,952	503	11.5

Both landowners and tenant-peasants have their own respective

associations, the number of which follows:

	Number of Associations	Members
Landowners' associations	633	48,836
Tenant-peasants' unions	4,890	276,246
Mutual cooperation associations	2,222	271,434

Tenant peasants' unions were very inactive in recent years, but owing to the growth of various mishaps in 1934 which gave indications of exceptionally bad crops they became suddenly heated, and active measures were taken. Meantime, landowners' associations remain inactive and they are conciliative in their attitude.

Labour Unions

Labour unions can be conveniently divided into two types, (1) those of factory, mine and transport workers, and (2) those of farmers.

The first type, that is to say, the movement of labourers in factories, mines and transport makes the central part of the whole labour movement, and an investigation on their organization and activities reveals the general trend of the labour movement in this country.

The number of organized unions in Japan was, in 1932, 932 with a membership of 377,625. In comparison with that of the previous year, it shows an increase of 114 unions and 8,650 men.

LABOUR UNIONS

(Compiled by the Bureau of Social Affairs)

	Unions	Members	Total number of labourers	Union percentage
1924	469	228,278	4,245,619	5.3
1925	457	254,262	4,485,810	5.6
1926	488	284,739	4,641,681	6.1
1927	505	309,493	4,703,757	6.5
1928	501	308,900	4,824,780	5.3
1929	630	330,985	4,873,081	6.8
1930	712	354,312	4,718,002	7.5
1931	818	368,975	4,729,436	7.9
1932	932	377,625	4,860,276	7.8
1933	942	384,613	5,126,719	7.5

Farmers' Unions Farmers' unions are changing from temporary organizations to permanent ones, and steadily increase in number. In 1921 there were only 681 tenant farmers' unions. It increased to 4,775 unions at the end of June, 1933. The num-

ber of landowners' unions correspondingly increased from 192 to 672 in the same span of time. Opposition between the two apparently is much expanded in scope and deepened in nature.

FARMERS' UNIONS

	Landowners		Tenant-farmers		Landowners and tenant farmers	
	Unions	Members	Unions	Members	Unions	Members
1929	655	55,138	4,156	315,771	1,986	244,943
1930	640	53,278	4,208	301,436	1,980	247,880
1931	645	50,556	4,414	306,301	2,047	255,088
1932	662	50,454	4,650	296,339	2,098	253,613
1933	682	49,645	4,810	302,736	2,309	279,431

The Consumers' Co-operative Movement

The consumers' co-operative movement among the working classes is rather unsound since 1931. Many consumers' co-operative societies have been dissolved or amalgamated. The estimated number in 1933 was 90 with a membership of 20,000. Tokyo had the largest number of the societies counting 40. The most important societies are the Yokohama Koshin, membership 1,700; the Ishikawajima Jikyo, 1,400; the Steel Manufacturing Workers' 600; the Tokyo Kyodo Sha, 1,520; the Josai, 850; the First Godo, 700; the Koto, 500. The 90 societies classified according to the size of membership

are as follows:

Range of membership	Percentage of the number of societies included
1-50	14.0
51-100	9.0
101-200	35.0
201-300	24.0
301-400	4.0
401-500	1.0
501-600	3.0
601-700	4.0
701-800	1.0
801-900	1.0
901-1,000	0.0
Above 1,001	4.0

Generally one member has one share ranging from 1 to 20 yen. The classification of 31 larger societies according to their capital is as follows:

Paid-up capital (In yen)	Number of societies
100-300	0
300-500	4
500-1,000	3
1,000-2,000	6
2,000-3,000	5
3,000-4,000	2
4,000-5,000	3
5,000-10,000	2
Above 10,000	2
" 20,000	2
" 30,000	1

The average monthly purchase of a member is ¥8.00 with ¥17.48 maximum and ¥1.47 minimum, and the purchasing power is on the decline.

The rate of business expenses against the amount of sale was from 8 to 10% in most of societies, and 10% of the societies exposed deficits, owing to the rising tendency in prices in the year.

Village Societies In addition to these more closely organized societies, there are some village co-operative associations. Since 1926, the need of forming village co-operative societies has come to be recognized by the farmers, and such societies are making rapid progress with the help of the national farmers' unions.

VILLAGE COOPERATIVE SOCIETIES

Number of Cooperative Societies

(At the year end)

	1928	1929	1930	1931	1932	1933
Total	14,171	14,047	14,082	14,163	14,352	14,651
Credit	2,601	2,547	2,449	2,135	2,051	1,756
Trading	308	315	323	330	325	311
Purchasing	316	305	323	325	336	332
Utilization	273	281	295	304	312	316
Trading and purchasing	275	265	284	286	307	292
Trading and utilization	253	276	287	277	267	268
Purchasing and utilization	74	85	102	114	116	131
Trading, purchasing and utilization	323	339	359	427	478	490
Credit and trading	144	227	223	204	196	175
Credit and purchasing	2,241	2,145	2,024	1,929	1,759	1,370
Credit and utilization	150	153	149	129	117	106
Credit, trading and purchasing	3,217	3,086	3,075	3,132	3,194	2,718
Credit, trading and utilization	94	66	59	47	42	38
Credit, purchasing and utilization	368	364	374	373	355	286
Credit, trading, purchasing and utilization	3,534	3,593	3,751	4,151	4,497	6,062
Classified by the organization						
Limited liability	12,586	12,619	12,733	12,910	12,968	8,363
Unlimited liability	1,354	1,179	1,112	1,030	990	1,182
Guaranteed liability	231	249	237	223	394	5,106

Operation of Cooperative Societies

(Amount in yen)

	1927	1928	1929	1930	1931	1932
Number of societies investigated	13,197	13,169	13,170	13,161	13,122	13,106
Number of members of societies	4,157,404	4,405,553	4,571,785	4,743,091	4,813,140	4,978,248
Capital						
Total amount	266,849,014	284,095,172	299,557,511	307,597,146	313,023,822	312,668,822
Amount paid up	181,977,491	199,589,562	216,249,957	228,226,949	234,572,589	239,725,266
Reserved fund	81,654,264	94,085,007	104,593,916	113,881,893	120,622,210	124,157,646
Loans	148,142,539	175,049,134	197,224,836	239,581,816	255,918,637	276,072,070

	1927	1928	1929	1930	1931	1932
Credit societies						
Number of societies investigated	11,722	11,578	11,530	11,449	11,358	11,290
Number of members of societies	3,459,355	3,536,878	3,755,876	3,861,078	3,856,482	3,925,801
Deposits	885,824,220	1,011,342,067	1,108,366,648	1,102,573,886	1,070,803,053	1,063,163,980
Trading societies						
Loans (in advance)	740,639,515	845,354,705	897,206,318	984,476,442	1,005,672,599	1,017,632,605
Number of societies investigated	7,524	7,515	7,626	7,777	8,167	8,477
Number of members of societies	2,404,754	2,547,218	2,690,273	2,845,400	3,027,070	3,151,868
Total amount of sales (for the year)	231,454,464	245,773,860	254,555,387	192,473,843	181,140,200	202,838,620
Purchasing societies						
Number of societies investigated	9,739	9,539	9,505	9,576	9,931	10,086
Number of members of societies	2,833,270	2,927,980	3,014,997	3,152,016	3,341,512	3,498,560
Total amount of purchases (for the year)	143,430,109	149,011,320	155,174,923	127,270,950	105,881,259	129,110,813
Utilization societies						
Number of societies	4,592	4,761	4,826	5,073	5,424	5,647
Number of members of societies	1,585,228	1,756,142	1,855,751	1,998,105	2,143,193	2,281,068
Total amount of charges for utilization (for the year)	5,362,102	5,670,698	5,826,309	5,727,532	5,391,517	5,731,028

Fishermen's Societies Fishermen's societies are the corporations organized by fishermen with the object to acquire fishing right and piscary as well as to establish common working orders.

(At the year end)

	1927	1928	1929	1930	1931	1932
Number of societies classified by number of members						
Under 50	3,781	3,870	3,892	3,874	3,928	3,957
51-100	1,272	1,287	1,267	1,239	1,260	1,262
101-200	902	938	924	913	884	882
201-500	923	919	947	957	997	1,004
501-1000	538	619	642	649	661	670
1001 and over	84	93	98	100	105	109
Number of members of societies	12	14	14	16	21	20
Federations of societies	470,962	509,863	512,761	526,579	546,622	535,736
Number of federations	41	48	64	61	63	69
Number of member-societies	557	636	816	830	881	917

Measures for Assistance of Workers

The Government Aid The most important policy of the Government in this connection in 1931 was the drafting of the Labour Union Law. But by the strong opposition of the representatives of business organiza-

tions the essential part of the Bill was deleted. The Labour Dispute Harmonizing Bill met the same fate. But the Government did something for the labourers by enforcing the Child Insurance Law, the Labour Accident Relief Law, and the Labour Accident Legal Insurance Law. The second one, the Labour Ac-

cident Relief Law provides for relief by employers of workers injured in quarrying, etc., in civil engineering work, in transport work, and as longshoremen. Hitherto, these labourers had no protection, being outside the terms of the Mine Law or the Factory Law, except that they occasionally received gifts or consolation money from employers. By the enforcement of this law their compensation becomes for the first

time a legal obligation on employers. The number of enterprises which come under the Law was 8,160 and that of employees 321,962 in 1932. The number of cases in 1932 was 31,582 and the money expended amounted to ¥927,037.

Relief in Factories and Mines The condition of reliefs in 1932 in the factories and mines which come under the Factory Law and the Mine Law was as follows:

	Number	Expenses (In yen)
Factory		
Number of factories	75,799	
" " operatives	1,763,868	
Cases of relief		1,144,394
Casualties	21,661	720,543
Private factories	8,888	423,851
Government factories	12,773	9,891
Sickness	758	6,038
Private factories	621	3,853
Government factories	137	
Mine		
Number of mines	1,134	
" " miners	185,840	
Cases of relief		1,318,290
Casualties	9,772	46,893
Sickness	181	

The Insurances The types of insurance available for labourers and people of small means generally are (1) Health Insurance, (2) Post-Office Life Insurance, (3) Post-Office Annuities and (4) Labour Accident Relief Legal Insurance.

(1) Health Insurance has been in existence since 1926. The system was revised thoroughly in 1920 and showed a good progress. In 1932 the number of labourers who were injured while at work and relieved according to the provisions of the Health Insurance Law was 21,661, and deaths numbered 254, decreasing 886 and 59 respectively as compared with the previous year.

There were 341 Health Insurance Associations with a membership of 615,734 at the end of May, 1933. Besides, the Health Insurance handled by the Government had 1,127,250

men insured who were workers in 49,125 factories and enterprises.

(2) The Post Office Life Insurance policies for adult in force at the end of March, 1934 were as follows:

	March, 1933 (revised)	March, 1934
Number	18,183,187	20,057,686
Premiums	¥ 14,726,032.8	16,251,313.5
Sums insured	¥ 2,412,798,961.1	2,654,183,347.2

There is no way of finding the exact number of policies contracted by labourers, but judging from the lowest class of sums insured about 17 per cent. of the total may be insurers of the labouring class.

Child Insurance is provided for under the Post-Office Insurance scheme. According to the rules, the age of the child must be from 3 to 12, which means that about 19,000,000 children are eligible. The monthly

premium is of three kinds, 30 sen, 50 sen and one yen, while the term of insurance is for 15 years or 20 years. For a monthly premium of one yen the insured amount is ¥60 for children under 4 years, 20 yen is added for every subsequent year, reaching 180 yen at the age of 9. From age 10 to the expiration of the term a total amount of from ¥86

	March, 1933	March, 1934
Number of policies	248,197	276,664
Premiums	¥44,334,975.03	55,178,047.03
Amount of annuities paid in the fiscal year	¥18,901,356.06	21,932,757.02

(4) **Labour Accident Relief Legal Insurance.** The Labour Accident Relief Legal Insurance Law was enforced on April 1, 1932. The purport of the law is to insure harmonious practice of the provisions of the Labour Accident Relief Law, in view of the cases that may arise in which labourers engaged in works under such smaller capitalists as stone-cutters, public-works or building contractors and stevedore masters cannot get allowances specially when large-scale accidents occur. According to the provisions of the law, subscription is compulsory for public-works or building contractors, and the premium is borne by the employers entirely. In 1932-1933 the number of policies taken was 5,148 and the premiums received amounted to ¥1,100,188.43. The number of cases of sickness or casualties was 3,505 and the expenses amounted to ¥143,572.68.

Creation of Landed Farmers The work of creating and maintaining landed farmers by national subsidy was begun in 1926, and it was carried out in all prefectures except Tokyo. During 8 years from 1926 to 1933, the amount of loans reached ¥109,072,100 for new establishments and maintenance. The money comes from the treasury of the Post-Office Insurance.

to ¥190 according to the age of the insured at the time of making the original contract. The number of policies in force at the end of March, 1934 was 1,760,029, premiums ¥1,213,149.5 and sums insured ¥237,262,337.

(3) The condition of the Post Office Annuities at the end of March, 1934 was as follows:

The area of land possessed by the new landed farmers in 1933 was 25,201 cho (cho=2.45 acres) of rice fields, 22,464 cho of upland-farms and 1,097 cho of other land, making a total of 48,763 cho. The number of new landed farmers in 1933 was 125,232, and that of maintainers 13,046.

Mutual Assistance Organizations The number of associations organized by the new landed-farmers, for the purpose of mutual assistance in payment of loans and improving farming methods, reached 1,116 in 1932 with a total membership of 34,576. The business of these bodies varies according to local conditions, but almost all of them are making efforts to save money and pay back loans received by members or prepare for lean years, and to help members in cultivation, etc. They also organize subsidiary occupations for members, give help in paying taxes, and organize lectures or exhibitions. When there are sick people among members the association helps them with materials or by working on the fields for them so as to maintain the ownership.

Dispute-Harmonizing Law The Government is eager to prevent labour disputes if possible, and especially those involving left wing organizations. If this cannot be done there

is no other means to meet the situation than equitable adjustment of disputes after their occurrence. The Labour Dispute Harmonizing Law was first issued in 1926, but experience has since convinced the Government of the need for its revision. The Government sets much store by the services of official mediators or "harmonizers," and in the revised law the power of such officials is to be increased.

In 1933, there was only two cases in which a labour dispute was settled by the effort of a harmonizing committee organized according to the

provisions of the Harmonizing Law. The number of cases settled by harmonizing effort outside the Law increased along with the increase in the number of disputes. Figures for 1933 follow:

Number of disputes	1,897
" " cases handled by arbitrators of all kinds	602
Harmonizing committee	2
Official arbitrator	152
Police arbitrator	210
Other officials	8
Municipal officials	27
Private arbitrator	203
Settled by arbitration	594
Not settled by ..	8

Employment Exchange (See Chapter XXX.)

CHAPTER XXXII

MEDICINE AND SANITATION

General

Foreign Physicians "Where there are three doctors there are two atheists" says the old proverb: yet medicine has ever been the handmaid of religion, and it was through a Christian missionary, St. Francis Xavier, that Western bodily healing first reached the shores of Kyushu. Later, when trade between foreign countries and Japan was the privilege of Dutch merchants only, the physicians who came with them proved a priceless source of knowledge to those Japanese who travelled secretly to Nagasaki in order to learn these new things: and the Bavarian scientist, P. F. von Siebold, spent three years in Yedo instructing the Shogunate doctors in his art. Then, as the Meiji Era opened the gates to foreign learning of every sort, Western medicine entered on the flowing tide, submerging, at least for a time, the native or Chinese system that had obtained for so many centuries, and of which further mention will be found on another page. Europeans were engaged to organize hospitals and to teach medical science in the colleges; and though Germany soon came to dominate the field in the latter case, it was an Englishman, Dr. Willis, who was the first to be officially engaged; he and Dr. Anderson being appointed to the

Military and the Naval hospitals respectively in Tokyo.

It was largely through the influence of the late Dr. Baelz, who successfully attended an Imperial patient when the latter was dangerously ill, and of Dr. Scriba, the well-known surgeon, that Japan soon turned to Germany for almost all her medical instruction, though the late Baron Takagi, founder of the Tokyo Charity Medical College and Hospital and formerly head surgeon of the Navy, kept his institution for many years representative of the English school of medicine.

Among Americans might be mentioned Dr. A. E. Vedder, naval surgeon, Dr. Hepburn, and Dr. Eastlake, the father of American dentistry in Japan, though perhaps both were more famous as dictionary-makers; and, more recently, Dr. Teusler of St. Luke's Hospital in Tsukiji.

Physicians, Dentists, Pharmacists, etc.

Medical Practitioners The total number of medical licences issued in 1933 was 3,141 (besides 13 to foreigners), showing an increase compared with the preceding year of 286 licences (the number issued to foreigners increased by 3). In the following table is given the number of persons to whom licences were issued, classified and compared with the preceding year's figures:

	1932	1933
Graduates of universities	1,576	1,649
Completed course in Government or public colleges	97	115
Completed course in designated private colleges	1,180	1,374

PHYSICIANS, DENTISTS, PHARMACISTS

875

	1932	1933
Completed course in foreign colleges (including examination)	2	3
Total	2,855	3,141

The total number of medical practitioners at the end of 1932 was 50,068 (besides 23 foreigners), including 1,881 women, showing an increase on the preceding year of 1,963

practitioners (an increase of 7 among foreigners). The following table gives the number of medical practitioners at the end of 1933:

NUMBER OF MEDICAL PRACTITIONERS

	Males	Females	Total	Actually Engaged	Per 10,000 of Population
1929	47,484	1,320	48,804	43,676	6.94
1930	48,239	1,442	49,681	45,582	7.07
1931	46,403	1,612	48,015	44,889	6.87
1932	48,188	1,881	50,069	46,029	6.94
1933	50,578	2,214	52,792	49,844	7.41

Of the above total number in 1933, those who actually engaged in the diagnosis and treatment of patients were 49,844, being 94 per cent. of the total.

The total number of those medical practitioners who were actually engaged in the diagnosis and treatment of patients at the end of 1933 was at the rate of 7.41 practitioners per 10,000 inhabitants, showing an increase of 0.47 when compared with the preceding year.

The ratio of the distribution of medical practitioners between urban and rural districts was 13.24 prac-

tioners per 10,000 of population in the urban districts while it was 4.78 per 10,000 inhabitants for the rural districts. Compared with the preceding year, it was an increase of 1.55 for urban districts and a decrease of 0.01 for rural districts.

Dental Surgeons The total number of licences issued to dental surgeons in 1933 was 1,175, being an increase of 179 when compared with the preceding year. In the following table is given the number of persons to whom the licences were issued in 1933, classified and compared with the preceding year's figures:

	1932	1933
Completed course in dental colleges	923	1,074
Completed course in foreign schools (including those who passed examination)	4	7
Passed examination	69	94
Total	996	1,175

The total number of dental surgeons at the end of 1933 was 17,984 (besides two foreigners), including 1,178 females, showing an increase on the preceding year of 820 (number of foreigners remained station-

ary). The following table gives the number classified and in percentage (the percentages for the preceding four years are also given for comparison):

	At the end of 1933	Percentage				
		1933	1932	1931	1930	1929
Completed course in dental colleges	9,189	50.82	48.14	44.57	42.02	38.97
Completed course in foreign schools (including examination)	78	0.43	0.43	0.45	0.51	0.53
Passed examination	8,761	48.72	51.40	54.94	57.41	60.45
In practice from the time before the promulgation of the Law of Dental Surgeons	6	0.03	0.03	0.04	0.06	0.05
Total	17,894	100.00	100.00	100.00	100.00	100.00

Of the above number, those who were actually engaged in practice numbered 17,562 which corresponds to 97.65 per cent. of the total number of dental surgeons.

The total number of those dental surgeons who were actually in practice was at the rate of 2.61 per 10,000 of the population.

The ratio of the distribution of dental surgeons in cities and districts of the country was 5.04 for cities and 1.52 for districts per 10,000 inhabitants. Compared with the preceding year, it was an increase of

0.25 for cities and 0.04 for the districts.

At the end of 1933, besides the above mentioned number of dental surgeons, there were 85 medical practitioners who specialized in dentistry.

Pharmacists The total number of pharmacist's licences issued in 1933 was 1,502, showing an increase, when compared with the preceding year, of 105 licences. In the following table is given the number of persons to whom licences were issued in 1933 classified and compared with the preceding year's figures:

	1932	1933
Graduates of universities	28	22
Completed course in colleges	322	296
Completed course in designated private school of pharmacology	952	1,138
Completed course in foreign schools (including examination)	4	2
Passed examination	91	44
Total	1,397	1,502

The total number of pharmacists at the end of 1933 was 21,802 (besides 1 foreigner), including 2,278 females, showing an increase, compared with the preceding year's figures, of 1,332 (the number of foreigners remained

stationary); and the following table gives the number classified and in percentage (the percentage for the preceding four years are also given for comparison):

	Number at the end of	Percentage				
		1933	1932	1931	1930	1929
Graduates from universities	287	1.32	1.21	1.27	1.19	1.19
Completed course in colleges	10,906	50.02	45.57	42.46	39.44	36.42
Completed course in foreign schools (including examination)	80	0.14	0.12	0.13	0.15	0.15
Passed examination (including ex- amination under former regula- tions)	10,579	48.52	52.10	56.14	59.22	62.24
Total	21,802	100.00	100.00	100.00	100.00	100.00

Of these pharmacists, (1) the number of practising pharmacists (those who were engaged in the dispensing of medicines in the pharmacy, those who were engaged in the sale of medicines and those who were engaged in the manufacture of medicines) was 14,847 (2) the number of those who, being employed by hospitals or other dispensaries, were engaged in the dispensing of medicines was 2,371 and (3) those who were exclusively engaged in the sale of patent medicines numbered 1,323. Those coming under (1) corresponds to 68.10 per cent. of the total number of pharmacists while (2) and (3) represented 10.88 and 6.07 per cent. respectively.

At the end of 1933, the proportion of pharmacists to the population was 3.24 per 10,000 inhabitants, showing an increase of 0.15 on the preceding year.

Pharmacies and Traders in Medicines

Pharmacies The number of pharmacies at the end of 1933 was 11,713 of which 11,595 were run by pharmacists and 118 by non-pharmacists, showing an increase, when compared with the preceding year, of 403 pharmacies run by the pharmacist and 28 pharmacies managed by non-pharmacists.

Traders in Medicines The total number of persons engaged in the sale of medicines at the end of 1933 was 28,806, showing an increase of 616 persons on the preceding year; among them, the qualified pharmacists who are engaged in the sale of medicines without opening pharmacies numbered 650 and the druggist 28,156. Of these druggists those who were qualified to deal in designated medicines numbered 4,230, of which those employing pharmacists were 1,760, those coming under the provisions of Art. XXXVII, Item 4

of the "Regulations for the Trade in Medicines and the Handling Thereof" were 131 and those coming under the second clause of the supplementary provisions of the same regulations were 2,339.

Medicine-Manufacturers The total number of medicine-manufacturers at the end of 1933 was 3,832 being an increase of 22 on the preceding year. Of these manufacturers 1,199 were pharmacists, 879 those who employ pharmacists, and 1,754 neither pharmacists nor those employing pharmacists.

Midwives

Number The total number of midwives at the end of 1933 was 56,590 (besides two foreigners), showing an increase of 1,935 (no change in the number of foreigners) on the preceding year; they may be classified into 4,176 persons who completed the course in designated schools or training institutes, 48,563 who passed the examination, and 3,397 who have been in practice from time prior to the operation of the Midwives Regulations, and 454 who practise in limited districts.

Distribution The proportion of midwives to the population was 8.42 per 10,000 of the population, being an increase of 0.18 on the preceding year.

The ratio of the distribution of midwives between urban and rural districts of the country was 11.72 in the urban districts and 6.92 in the rural districts per 10,000 inhabitants, showing, when compared with the ratio in the preceding year, a decrease of 0.08 in the urban districts and an increase of 0.19 in the rural districts.

Nurses, Acupuncturists; Moxi- cauterists, and Shampooers

Nurses The total number at the end of 1933 of nurses who had

obtained licences from the prefectural offices was 96,020 (of which 4,412 were under-nurses) showing an increase of 6,336 on the preceding year.

Male Nurses The number of male nurses at the end of 1933 who had obtained licences from the prefectural offices was 172, showing an in-

crease of 30 on the figures of the preceding year.

Acupuncture, Moxicautey, and Shampooing The following table gives the number of persons engaged in acupuncture, moxicautey, and shampooing who had obtained licenses from the prefectural offices at the end of 1933.

	Not Blind			Blind		
	Males	Females	Total	Males	Females	Total
Acupuncture	2,515	566	3,081	1,730	343	2,073
Moxicautey	3,165	862	4,027	689	172	861
Shampooing	7,675	3,673	11,348	15,272	9,280	24,552
Acupuncture and moxicautey	7,272	1,360	8,632	1,440	308	1,748
Acupuncture and shampooing	1,043	259	1,302	2,706	635	3,341
Moxicautey and shampooing	527	119	646	410	80	490
Acupuncture, moxicautey, and shampooing	4,451	660	5,111	4,526	825	5,351
Total	25,648	7,501	34,149	25,771	11,643	38,414

Among the above mentioned shampooers there were 1,928 who were engaged in the treatment of contusion by means of Judo.

The following table gives the ratio to the population of the above mentioned acupuncturists, moxicautey-

ists, and shampooers and the percentage of the blind and those who are not blind among them:

	Per 10,000 inhabitants	Not Blind		Percentage Blind		Total
		Per 10,000	Percentage	Per 10,000	Percentage	
Acupuncture	0.77	59.78	40.22	100.00	100.00	
Moxicautey	0.73	82.42	17.58	100.00	100.00	
Shampooing	5.34	31.61	68.39	100.00	100.00	
Acupuncture and moxicautey	1.54	83.16	16.84	100.00	100.00	
Acupuncture and shampooing	0.69	28.04	71.96	100.00	100.00	
Moxicautey and shampooing	0.17	56.87	43.13	100.00	100.00	
Acupuncture, moxicautey, and shampooing	1.55	48.85	51.15	100.00	100.00	
Total	10.79	47.06	52.94	100.00	100.00	

Hospitals

Public Hospitals At the end of 1933

there were 87 public general hospitals, the number being same as in the preceding year.

PUBLIC HOSPITALS IN 1933

Capacity of admitting patients	In cities			In towns		In villages		Total
	More than	10	2	13	4	19		
More than	10	2	13	4	19			
"	30	5	10	—	15			
"	50	12	7	—	19			
"	100	31	3	—	34			
Total		50	33	4	87			

In the following table are given the capacity for admitting the patients and the number of patients admitted in 1933 to these hospitals:

Patient admitting capacity	9,029
Of the above capacity:	
For tuberculosis	266
" infectious diseases	699
Number of patients:	
Remaining from the preceding year	3,459
Admitted this year	81,926
Discharged	75,162
Died in hospital	6,566
At the end of the year	3,637
Aggregate number of in-patients treated each day	1,920,338
Average capacity per hospital	103.78
Average number of in-patients per hospital	981.21

Average number of days a patient stayed in hospital 22.50

Private Hospitals (Charity Hospitals, Tuberculosis Hospitals, Insane Asylums and Leprosaria excluded.) The total number of private hospitals at the end of 1933 was 2,453 (of which 59 had been established by the public juridical persons and 12 by foreigners), which, when compared with the figures for the preceding year, shows an increase of 102 hospitals.

The following table gives the number of these hospitals in urban and rural districts classified according to their capacity of admitting patients:

	Cities	Towns	Villages	Total
With capacity for more than 10	1,082	542	198	1,822
" " 30	253	86	29	368
" " 50	127	37	21	185
" " 100	66	7	5	78
Total	1,528	672	253	2,453

In the following table are given the number of private hospitals classified according to the diseases they treat:

	Cities	Towns	Villages	Total
General	744	525	190	1,459
Medicine	185	48	15	248
Surgery	144	28	11	183
Paediatrics	56	1	1	58
Ophthalmology	82	26	18	126
Obstetrics and gynaecology	175	34	13	222
Dermatology and venereal and Genito-urinary diseases	66	4	3	73
Otorhinolaryngology	72	6	2	80
Dental surgery	1	—	—	1
Others	3	—	—	3
Total	1,528	672	253	2,453

In the following table are given the figures in connection with the capacity of admitting patients and

the number of patients, etc. in the private hospitals:

Capacity	69,738	At the end of 1933	22,739
For infectious diseases	3,742	Aggregate number of in-patients treated each day	8,715,087
" tuberculosis	2,252	Average capacity per hospital	28.43
Number of in-patients		Average number of in-patients per hospital	206.68
Remaining from the preceding year	19,311	Average number of days in hospital of a patient	17.19
Admitted in 1933	487,685		
Left the hospital	454,973		
Died in hospital	29,284		

Charity Hospitals (Tuberculosis Hospitals, Leprosaria and Insane Asylums excluded.) The total number of public and private charity hospitals at the end of 1933 was 35, of which 12 were public and 23 private hospitals, showing a decrease on the preceding year of one private hospital.

The following table gives the capacity and the number of patients who entered them in 1933.

Admitting capacity	3,360
Number of in-patients	
Remaining from the preceding year	2,100
Admitted in 1933	210
Left the hospital	31,143
Died in hospital	7,111
At the end of 1933	27,314
Aggregate number of in-patients treated each day	6,606
Average capacity per hospital	3,638
Average number of in-patients per hospital	458
Average number of days in hospital of a patient	2,300
Percentage of paying patients	257
Aggregate number of in-patients treated each day	945,430
Average capacity per hospital	110,504
Average number of in-patients per hospital	96.00
Average number of days in hospital of a patient	1,159.23
Percentage of paying patients	25.03
Percentage of paying patients	18.04%

* Indicates the number of paying patients.

Insane Asylums The total number of public and private insane asylums (with the admitting capacity of at least 10) at the end of 1933 was 120, consisting of 8 public and 112 private asylums, showing an increase on the preceding year of ten private asylums.

The following table gives their admitting capacity and the number of patients who entered them in 1933.

Admitting capacity	15,996
Number of in-patients	
Remaining from the preceding year	6,904
Admitted in 1933	4,291
Left the asylum	3,824
Died in asylum	10,622
At the end of 1933	1,984
Aggregate number of in-patients treated each day	8,740
Average capacity per hospital	
Average number of in-patients per hospital	
Average number of days in hospital of a patient	
Percentage of paying patients	

Died in asylum	1,230
At the end of 1933	1,103
Aggregate number of in-patients treated each day	7,514
Average capacity per asylum	5,070
Average number of in-patients per asylum	2,555,071
Average number of days in asylum of a patient	*1,838,458
Percentage of paying patients	133.30
Percentage of paying patients	213.68
Percentage of paying patients	171.35
Percentage of paying patients	58.16%

* Indicates the number of paying patients.

Tuberculosis Hospitals The total number of public and private tuberculosis hospitals (with admitting capacity of at least 10) at the end of 1933 was 76 (three of which had been established by foreigners), consisting of 20 public and 56 private hospitals showing an increase of one public and six private hospitals, on the preceding year.

The following table gives the admitting capacity and the number of patients who entered them in 1933.

Admitting capacity	6,177
Number of in-patients	
Remaining from the preceding year	2,701
Admitted in 1933	1,766
Left the hospital	8,476
Died in hospital	7,554
At the end of 1933	1,477
Aggregate number of in-patients treated each day	5,150
Average capacity per hospital	1,962
Average number of in-patients per hospital	1,977
Average number of days in hospital of a patient	2,744
Percentage of paying patients	2,103
Aggregate number of in-patients treated each day	980,677
Average capacity per hospital	*762,433
Average number of in-patients per hospital	81.28
Average number of days in hospital of a patient	203.91
Percentage of paying patients	113.06
Percentage of paying patients	60.14%

* Indicates the number of paying patients.

Leprosaria The total number of public and private leprosaria (with the capacity for at least 10) at the end of 1933 was 15 (one of which

had been established by foreigners), consisting of 3 Governmental, 5 public and 7 private leprosaria. The following table gives the admitting capacity and the number of patients who entered them in 1933.

Admitting capacity	4,639
Number of in-patients	
Remaining from the preceding year	4,319
Admitted in 1933	35
Left the leprosarium	1,451
Died in leprosarium	59
At the end of 1933	385
Aggregate number of in-patients treated each day	24
Average capacity per leprosarium	309
Average number of in-patients per leprosarium	3
Average number of days in leprosarium of a patient	4,876
Percentage of paying patients	67
Aggregate number of in-patients treated each day	1,536,698
Average capacity per leprosarium	*14,204
Average number of in-patients per leprosarium	309.27
Average number of days in leprosarium of a patient	390.93
Percentage of paying patients	281.53
Percentage of paying patients	1.60%

* Indicates the number of patients who bear the whole or a part of their expenses.

The following are the figures concerning the three National leprosaria of Nagashima Aisaién, Kuryu Raku-senén and Miyako Ryoyojo:

	Aisaién	Raku-senén	Miyako
Capacity of admitting patients	678	115	60
Number of in-patients:			
Remaining from last year	500	1	43
Admitted in 1933	353	94	18
Discharged	57	—	4
Died	45	2	5
At the end of the year	751	93	52
Aggregated number of in-patients treated each day	228,258	22,648	18,469
Average number of days a patient stayed in leprosarium	267.59	238.40	302.77

Hospitals for Prostitutes At the end of 1933 there were 133 hospitals for prostitutes, and the total capacity for them was 5,330 (of which 10 were in the infectious diseases rooms). Compared with the preceding year, there was a decrease of three hos-

pitals and 51 in their admitting capacity. The number of patients who had remained over from the preceding year in the hospitals was 1,289 and those who entered them in 1933 numbered 49,984, making a total of 51,223 (of which 769 were clandestine prostitutes admitted under the provisions of Art. III of the Administrative Execution Law).

The following table gives ratios respecting facts connected with the above mentioned hospitals for prostitutes:

1933	
Average capacity per hospital	40.08
Average number of patients admitted per hospital	365.14
Average number of days a patient remained in hospital	18.99
Average number of days a clandestine prostitute remained in hospital	19.09

Infectious Diseases Hospitals (Established under the provision of the Law for the Prevention of Infectious Diseases). The total number of infectious diseases hospitals at the end of 1933 was 1,261, consisting of 116 established by cities, 960 by towns, villages and other similar public corporations and 185 established by town or village associations or other similar associations. The admitting capacity of these hospitals was 26,737, making an average of 21,20 per hospital.

The isolation wards at the end of the same year numbered 7,398, consisting of 56 established by cities, 6,971 by towns, villages or similar public corporations, and 371 by the town or village associations or similar associations; and the admitting capacity in these isolation wards was 67,558, the average per ward coming to 9.13.

The total number of isolation houses at the end of 1933 was 75, of which 12 were those established by cities, 63 by towns, villages or similar public corporations. The es-

estimated total capacity of these isolation houses was 1,926, the average capacity per house coming to 25.68 persons.

At the end of 1933, there were 44 disinfecting stations.

Medicines

Medicines and Preparations not Mentioned in Pharmacopoeia The total number of persons who have reported in 1933 to the respective prefectural offices of the manufacture, im-

portation and sale of medicines and preparations not to be found in any pharmacopoeia was 705 and the number of medicines reported 2,372 showing, compared with the preceding year an increase of 50 persons and an increase of 250 medicines.

Inspection of Medicines In the tours of inspection made during 1933, 27,661 places (an increase of 4,273 when compared with the preceding year) were visited; and the following table gives the places visited and the results of the inspection:

	Number of places visited	Percentage of places visited against places to be visited	Percentage of deleterious medicines discovered	Percentage of violators of the regulations punished	
Total	27,661	25.16	22.93	42.39	0.65
Pharmacists	5,128	44.30	25.66	48.54	1.11
{ with pharmacy	91	7.03	10.99	21.98	—
{ others	36	30.77	16.67	36.11	—
Non-pharmacists	7,129	25.06	7.86	12.96	0.87
Druggists	648	23.56	1.08	2.31	2.01
Medicine-manufacturers	766	28.19	33.03	59.14	—
Hospitals	10,006	23.27	34.83	67.95	0.33
Medical practitioners	3,501	21.21	15.68	23.16	0.26
Dental surgeons	356	7.68	29.49	56.74	1.89
Veterinary surgeons					

Patent Medicines At the end of 1933, the total number of patent medicine traders was 40,845, which shows an increase of 333 when compared with the figures of the preceding year. Of these, there were 10,276 pharmacists, 3,099 medical practitioners and veterinary surgeons, and those who employ pharmacists numbered 2,488, those who come under Art. XXIV of the Patent Medicine Regulations were 18,700, and those who come under Art. XXV, of the same law 6,243, while there were 39 who were engaged exclusively in the importation and sale of patent medicines.

The total number of recognized patent medicines was 283,475 (of which 175 were imported), showing an increase of 14,849 when compared

with the figures of the preceding year.

Patent medicines manufactured or imported in 1933 amounted to ¥81,627,188 (of which ¥546,590 represents the import from the territories), showing when compared with the population in that year the ratio of 1.21 yen per person, being a decrease of 1 sen compared with the preceding year.

Japanese and Chinese Medicine

In Japan, as in the West, there is a system of home treatment, the history of which can be traced back into ancient times. Needless to say, however, that by far the greater part of home treatment in those days sprang from superstition. The people in those days had no knowledge

of medicine, but it would be an error to say that all the methods employed in home treatment were nonsense. Such methods as are really efficacious and can stand the test of modern science have come to survive to this day and these cannot be cast aside as mere superstition. In this connection it may be remembered that digitalis, cocaine, and other remedies and drugs have all originated in some simple home medicine of uncivilized peoples.

There are naturally many methods of home treatment in Japan, some of which can hold their own against the tests of modern science, while others cannot.

(1) The latter group of treatments is based upon superstition or erroneous conceptions of medicine and as such it cannot stand the test of modern medical science. Belonging to this group are such so-called methods of cure as incantation, prayer, conjuration, etc. Yet it must be said that sometimes people are cured from their diseases in consequence of auto-suggestion, and in such cases the cure can hardly be said to have been brought about by superstition.

(2) Rational home treatment can be classified into physical and pharmaceutical treatment. The former includes hydrotherapy, balneotherapy, sand-bathing, massage, acupuncture, moxibustion, etc. and since other remedies are already recognized as physical therapy by present medical science and need no special explanation, it is only necessary to review here, in brief, acupuncture and moxibustion.

Acupuncture Acupuncture, as a method of treatment or preventive of disease, consists in the introduction of a gold, a silver, or a steel needle into the living tissues and moving it very little vertically or, in some cases, leaving it in the tissue

for from 2 to 3 minutes. Little is known of the early history of acupuncture in Japan, but this much is known, that the art was introduced to this country from China in the reign of the Emperor Kimmei (about 550 A. D.). After reaching Japan great improvements were made in technique as well as in the needle itself and the practice of it spread widely year after year. However, with the introduction of Western medical science after the Meiji Restoration, acupuncture gradually dwindled in favour, but in recent years it has somewhat regained.

The needle now in use is from 3 to 10 cm. in length and about 0.2 mm. in thickness. There are certain specified points in the human body, some three or four hundred, where the needle can be inserted and it has been found that these points agree, in general, with Head's zones.

If the operator is skilful in introducing a needle into the tissues, no pain will be felt by the recipient. Only a little shock as though caused by electricity will be felt and hardly any bleeding will take place. As regards the action of the needle upon the human body its stimulative function must first be mentioned. As the needle stimulates the nerves, it serves to invigorate their function directly or reflectively and dilates the blood vessel, thus bettering the nourishment of that part of the body to which the treatment is applied and arousing a weakened function into greater activity. In the second place its sedative function has to be mentioned, and sedative results are achieved according to the length of time the needle is allowed to remain in the tissue. Its third function is that of inducing blood from other parts of the body to the part where the treatment is given, thus serving to relieve any congestion of blood.

Acupuncture is thus a good reme-

dy for functional diseases of the nervous system as paresthesia, motor paralysis, ankylosis, and several forms of neuralgia. It cannot be applied in cases of high fever, wasting disease, hæmorrhagic diathesis or any acute infectious disease. Among the places where the application must not take place may be mentioned wounds, gangrenous growths, the heart, the lungs, blood vessels and the pregnant uterus.

Moxibustion This method was brought, with acupuncture, from China in the reign of the Emperor Kimmel, and it came into general use after gradual improvement in its methods.

The moxibustion method of this country, with the moxa, was introduced to Western countries by Rhiene (1673), Buschaf (1674), both of the Netherlands, Jan Craset (1689) of France and Kampfer (1690) of Germany. After the beginning of Meiji, moxibustion, like acupuncture, gradually ceased to be practised, but of late it is again growing in popularity. In moxibustion, as in acupuncture, there are specific points of the body on which lighted moxa may be placed, thus producing erythema or blisters on the skin. Moxa is made from the leaves of mugwort which, after being dried in the sun, are rubbed and softened like cotton. They are then rolled into balls the size of a red bean or a soya bean and placed upon the skin. Cases where moxibustion cannot be used are almost the same as in acupuncture. Due allowance in the size of the moxa balls and the frequency of their use must be made for an infant or a weakened body. The diseases for which moxibustion is effective are:

(1) Nervous diseases:—neuralgia, cramp, neurasthenia, hysteria, chorea, and certain kinds of cerebrospinal diseases.

(2) Motor nervous diseases:—myalgia, articular rheumatism, myositis, arthritis.

(3) Digestive disorders:—atonía of the stomach and bowels, Ectasia of the stomach, gastric and intestinal catarrh, stomach paroxysm, dyspepsia, constipation, and diseases of the liver.

(4) Urinary diseases:—nephritis, pyelitis, cystitis, ureteritis.

(5) Gynecological diseases:—endometritis, metritis, Ovaritis, salpingitis, anomaly of situation and functional disorders.

(6) Pediatric diseases:—dyspepsia, catarrh of the stomach and bowels.

Moxibustion causes leucocytosis, gives an impetus to the recovery of the exhaustion curve line, increases blood sugar, complement and saponin. When used constantly, it creates erythrocytes and hæmoglobin. The nature of moxibustion, according to the studies of authorities, is not only that of heat stimulation, but also that of a protein-therapy.

Home Medicines Prince Sukunahikona is generally regarded as the founder of the indigenous medical science and pharmacy of this country. Communication with China naturally served to bring into this country Chinese medicine and pharmacy, which enjoyed great vogue, so much so that towards the end of the Tokugawa Shogunate Japanese medicine, to use an apparent contradiction of terms, was almost entirely Chinese. When, however, Western medical science was introduced immediately after the Meiji Restoration, people soon abandoned the Chinese school, and not only was Chinese medicine driven out of this country, but most of the Japanese people gave up using home remedies, though in recent years, there has been a return to them. Medical science has made great progress, but

the methods of cure have not advanced hand in hand with this progress. Diseases which were incurable in the past still remain incurable and people have again begun to think of home remedies. At the same time we cannot overlook the fact that new Western medicines, which are dispensed on purely scientific lines, are always better than drugs, though these, to some extent, are incorporated in the new medicines. In some cases, however, natural drugs are better than chemically prepared ones, and some physicians, who formerly considered drugs rather lightly, are now prescribing them more freely. In Japan, there are hundreds of drugs, but as space does not permit writing in full, a brief mention will be made of a few which may be of interest to the Western world and which have scientific value.

Home medicines are usually classified into animal, vegetable, or mineral matter, as below.

ANIMAL MATTER:

(1) The sea-ear. The shell, when powdered, is used for eye trouble.

(2) The oyster. The shell is used as an antacid and stomachic; and its fleshy part is utilized as a roborantia and a nutrientia.

(3) The blister beetle. Cantalidin contained in the insect is an efficacious ingredient and is good for the relief of arthritic rheumatism or an abscess, and sometimes is used to give impetus to suppuration. In China, it is said, the insect was used for poisoning purposes.

(4) Honey. Used as a cough remedy and as a laxative.

(5) The lamprey. Used for hemeralopia. Recently it was found that it contains plenty of vitamin A.

(6) The toad. Used as a cardiac and its efficacious ingredient is gamsin or Bufotoxin, and its work is similar to digitalis.

VEGETABLE MATTER:

(1) The tangle. This, as it contains iodine in its composition, is used as an alterantia of syphilis and consumption or scrofulousness.

(2) Rhea-grass. Used for diarrhoea as per-
spiratory diuretica, narcotic expectorantia or

astringentia; and it is well known that the efficacious ingredient "ephedolin," was abstracted from it by Dr. Nagai.

(3) The lily of the valley. Contains convallarin and is used for heart trouble.

(4) The rocambole. This is good for stopping a cough and helping expectoration, besides which it has a sterilizing power in the bowels. It is also prescribed for pulmonary tuberculosis.

(5) Saffron. Polycroid and crocin are efficacious ingredients and the vegetable is good for disorders of menstruation.

(6) Ginger. This is a sudorific and expectorantia, and is sometimes used for dyspepsia. The efficacious ingredient is gingerol.

(7) The purple willow. This, as it contains a chemical compound of salicylic acid, is used for skin diseases, rheumatism or fever.

(8) The geranium nepalenses. This is used widely in Japan, and is good for diarrhoea and intestinal catarrh. The efficacious ingredients have not yet been found.

(9) Ginseng. Is the best-known of Japanese home medicines. It contains volatile oil and saponin. It is used as a tonic in consumption, neurasthenia, impotence, decrepitude, anæmia.

(10) The plum. This is good for dyspepsia and diarrhoea as a peptic.

(11) The plantain. This is used as a diuretic and expectorant. It is also good for whooping-cough. Plantagion is the efficacious ingredient.

(12) Arrowroot. After being dried in the sun, the root is used for fevers or headaches. It contains plenty of starch.

MINERAL MATTER:

(1) Calcite. This is a peptic and is good for pulmonary tuberculosis. It contains calcium carbonate and magnesium.

(2) "Fukuryukan." This is made from the burnt clay of old clay cooking-stoves and is good for morning-sickness, sea-sickness and intoxication. It contains vitrioline, calcium and magnesium, but it is still uncertain what ingredient is good for disease.

Health Preservation Work

Control of Foods, Beverages, etc. Foods, beverages, and other articles actually under control of the Home Department in accordance with the provisions of the Department Ordinances based on Law No. 15, 1900, are milk and milk-products, non-alcoholic drinks, snow and ice, artificial saccharine matters, food and beverage preservatives, injurious

pigments, utensils for foods and beverages, and methyl alcohol, etc. The business of producing and manufacturing these things is making

healthy development under the guidance of the authorities concerned, as is shown by the following figures:

PRODUCTION OF MILK DRINKS, ETC.

(In litres)

	1929	1930	1931	1932	1933
Cow's milk	104,529,047	100,035,601	110,364,398	116,475,168	123,686,133
Goat's milk	581,387	720,989	878,731	838,247	1,001,713
Milk products					
Condensed milk	10,137,601 kg.	10,748,790 kg.	10,245,595 kg.	9,338,778 kg.	13,523,866
Condensed skim-milk	1,125,573 ..	1,435,627 ..	1,659,168 ..	1,688,183 ..	1,537,776
Powdered milk	918,636 ..	603,605 ..	753,218 ..	529,603 ..	979,870
Butter	1,124,743 ..	4,443,022 ..	4,714,772 ..	1,628,727 ..	1,810,719
Snow and ice					
Artificial ice	1,804,542,750 kg.	2,172,032,110 kg.	2,076,336,118 kg.	2,255,939,221 kg.	2,408,899,730 kg.
Natural ice	133,210,362 ..	118,057,532 ..	123,210,908 ..	115,737,956 ..	110,685,674 ..
Snow	1,362,176 ..	1,024,500 ..	2,259,213 ..	1,371,539 ..	1,356,332 ..
Refreshing drinks					
Mineral water and soda water	3,591,349	5,356,235	7,519,309	7,119,783	7,384,382
Ramuné	64,566,752	73,778,361	60,667,910	56,722,724	43,221,367
Cider	68,578,465	64,369,594	64,839,992	73,047,750	53,684,554
Lemonade, etc.	24,084,709	22,637,902	22,637,902	22,954,172	24,152,273
Fruit juice, syrup, etc.	10,610,996	9,770,019	9,872,600	11,279,420	10,036,239
Acid drinks made from milk and milk products	—	—	—	1,369,521	1,234,910

The total quantity of refreshing drinks as given above, when compared with the total population for the year, comes to 2.08 litres per inhabitant, showing a decrease of 0.52 litre, compared with the preceding year.

Results of Examination The fol-

lowing are the results of examinations carried out by prefectural authorities in 1933 with the object of exercising control over foods, beverages, and other articles which require control within the limits of provisions of the Law No. 15, 1900.

	(A) Total number of examination	(B) Number of injurious articles were discovered	Ratio of (B) to (A) in percentage	Compared with the preceding year
Milk and milk products	51,491	3,005	3.69	0.24 (incr.)
Snow and ice	4,496	507	11.28	3.96 (..)
Refreshing drinks	249,403	21,870	8.77	0.57 (decr.)
Utensils for foods and beverages	85,334	14,858	17.41	0.22 (incr.)
Confectionary	39,708	722	1.84	3.79 (decr.)
Canned and bottled foods	17,875	442	2.36	0.16 (..)
Alcoholic drinks	78,805	1,201	1.52	0.11 (..)
Other foods and beverages	83,598	3,797	4.54	1.13 (..)
Preservatives and decolourisers	197	10	5.08	3.11 (..)
Toys	1,941	50	2.58	0.33 (incr.)
Toilet articles	671	45	6.71	1.22 (decr.)
Miscellaneous	23,767	5,228	22.00	4.43 (incr.)
Total	667,286	51,725	7.75	0.21 (decr.)

Waterworks and Sewerage

Waterworks During the year from April, 1933 to March, 1934, sanction was given for the construction of

waterworks in 20 cities and municipalities.

Those places which obtained permission to construct waterworks may be classified as follows:

Undertaken by	Number of waterworks for which sanction or permission of the construction was given	Number of waterworks which now supply water
Cities	101	97
Towns and villages	325	300
Towns' or villages' associations	5	5
Prefectures	4	3
Private parties	101	92
Total	537	497

Sewerage During the year from April, 1933 to March, 1934, permission to construct sewers was given to four places, namely, Gifu city in Gifu prefecture, Koya town in Wakayama prefecture, Yawata city in Fukuoka prefecture and Miyazaki city in Miyazaki prefecture.

The places which obtained per-

mission to construct sewers are 25 municipalities which completed construction and 18 municipalities under construction.

Removal of Foul Matter The following table gives a general idea of foul matter conducted in 1933 in 122 cities.

Number of houses within the districts in which removal of foul matter was carried out	8,946,909						
Removal from the above mentioned houses	<table border="0"> <tr> <td>Refuse</td> <td>2,775,872,133 kg.</td> </tr> <tr> <td>Dirt</td> <td>691,875,513 ..</td> </tr> <tr> <td>Night-soil</td> <td>638,186 kl.</td> </tr> </table>	Refuse	2,775,872,133 kg.	Dirt	691,875,513 ..	Night-soil	638,186 kl.
Refuse	2,775,872,133 kg.						
Dirt	691,875,513 ..						
Night-soil	638,186 kl.						
Average amount removed per house	<table border="0"> <tr> <td>Refuse</td> <td>703.3 kg.</td> </tr> <tr> <td>Dirt</td> <td>177.4 ..</td> </tr> <tr> <td>Night-soil</td> <td>1.3 kl.</td> </tr> </table>	Refuse	703.3 kg.	Dirt	177.4 ..	Night-soil	1.3 kl.
Refuse	703.3 kg.						
Dirt	177.4 ..						
Night-soil	1.3 kl.						
Number of houses from which the holders of the land removed foul matters under Art. XXI of Regulation for Enforcement of the Law	77,903						
Number of incineration plants	113						
Water-closets with purifying equipments	11,423						

Note: 1 The figures of the night-soil given in the table represent only those for which city authorities are held responsible for its removal.

2 Number of incineration plants does not include the provisions for burning in the open.

Slaughter-houses and Slaughtering

Slaughter-houses The total number of slaughter-houses at the end of 1933 was 677, of which 85 was established by cities, 343 by towns and villages, 38 by live-stock raisers' or industrial associations, and 211 by private individuals. When compared with the figures of the preceding year, it shows an increase of

9 in city slaughter-houses, 5 in those of live-stock raisers' or industrial associations, and 17 in those privately established.

Slaughtering The number of animals of various kinds slaughtered in 1933 for food purposes and its comparison with the figures for the preceding year are given below (those slaughtered in emergencies or for household use are not included):

Kind of animals	Number of cattle slaughtered in 1933	Compared with 1932
Cattle	319,198 head	2,825 (decrease)
Calves	31,164 "	1,828 (increase)
Sheep	1,554 "	346 (")
Goats	2,869 "	8 (")
Pigs	969,557 "	668 (")
Horses	93,242 "	12,947 (")

The following table gives the weight of meat yielded in 1933 by the slaughtered animals and a comparison of the yield with that of the preceding year :

	Total weight		Average weight per head	
	1932 kg.	Compared with 1931 kg.	1932 kg.	Compared with 1931 kg.
Cattle	58,232,989	240,448 (decr.)	182.44	0.86 (incr.)
Calves	1,497,407	45,987 (incr.)	48.05	0.93 (decr.)
Sheep	29,469	3,134 (")	19.09	2.89 (")
Goats	28,678	513 (")	10.00	0.16 (incr.)
Pigs	47,240,401	86,021 (decr.)	48.72	0.13 (decr.)
Horses	13,026,146	1,887,878 (incr.)	139.70	0.98 (incr.)

The following table gives the number of cases in 1933 in which, after examination of animals for slaughter, slaughter was prohibited or orders were given for destruction after slaughter of the whole or parts of the carcasses or of the viscera only.

	Number prohibited	Wholly destroyed	After slaughter	
			partly destroyed	Viscera only destroyed
Cattle	74	147	4,314	81,695
Calves	9	22	210	1,244
Sheep	—	1	2	576
Goats	—	—	—	18
Pigs	239	194	4,076	363,275
Horses	211	68	3,157	12,198

Inspection of Imported Meat In 1933, the inspection of imported meat was carried out in the 9 ports of Osaka, Yokohama, Kobe, Shimonoseki, Moji, Ujina, Nagasaki, Izuhara and Tsuruga.

The total amount of meat inspected at these ports was 10,316,815 kilogrammes, showing a decrease of 446,046 kilogrammes on the preceding year. Classified by the kinds of meat, it was as follows :

	Weight of meat inspected (in kg.)
Fresh beef	158,382
Chilled beef	7,060,148
Frozen beef	2,959,884
Mutton	32,504
Pork	105,947

The following table gives the number of insane persons at the end of 1933 classified according to the places of their custody or confinement :

	Actual numbers			Percentage		
	Males	Females	Total	Males	Females	Total
Admitted into insane asylums under the law concerning Asylums for the Insane	1,156	649	1,805	2.38	2.37	2.37
Admitted into substitute asylums under the same Law	1,590	1,081	2,608	3.27	3.71	3.43
Under custody in other asylums or hospitals	2,816	1,542	4,357	5.79	5.62	5.73
Under custody in other places	5,463	1,193	6,656	11.24	4.35	8.76
Under temporary custody	75	19	94	0.15	0.07	0.12
Not requiring admission or custody	34,505	23,014	60,519	77.17	83.88	79.59
Total	48,604	27,435	76,003	100.00	100.00	100.00

Poisoning

The total number of persons poisoned in 1933 was 14,071 (an increase of 2,893 on the preceding year), of which 8,086 (57.47 per cent.) were poisoned intentionally, 5,947 (42.26 per cent.) by accident, and 38 (0.27 per cent.) through other's injuries; and of these persons poisoned 3,324 died, of which 2,912 were those poisoned intentionally, 394 those poisoned by accident, and 18 those poisoned by others, so that 36.07 per cent. of those intentionally poisoned died, 6.63 per cent. of those accidentally poisoned also died, and 47.37 per cent. of those poisoned through other's injuries also succumbed. Of poisonous substances the most frequently used in intentional poisoning and poisoning through other's injuries are chemicals, especially a preparation containing phosphorus; accidental poisoning is mostly due to eating poisonous animals or plants or putrid food.

Burials and Cremations

The total number of burial-grounds at the end of 1933 was 977,418 and their total area was 22,560 hectares, making the average area of burial-ground 0.02 hectare; and the total number of crematoria at the end of the same year was 34,728 in which 639,261 bodies were cremated during the year, so that a crematorium burnt on an average 18.4 bodies. In

the same year 645,535 bodies were buried uncremated, so that those cremated came to 49.8 per cent. and those buried uncremated to 50.2 per cent. of the total number of burials, which, when compared with the percentage for 1932, showed an increase of 1.5 per cent. in those cremated.

Prevention of Infectious Diseases

Cholera In 1933, there was no cases of cholera.

Dysentery, including Ekiri The total number of cases of dysentery in 1933 was 38,049 and there were 14,220 deaths therefrom which when compared with the figures for the preceding year, show an increase of 5,798 cases and 1,355 deaths. The ratios of these cases and deaths to the population in the same year were 5.66 cases and 2.11 deaths per 10,000 inhabitants, showing, compared with the preceding year, an increase of 0.80 cases and 0.17 deaths.

The total number of cases of dysentery which broke out in urban districts only during the year under review was 25,065 which corresponds to 65.88 per cent. of the total number of dysentery cases throughout the country. Of these, there were 8,414 deaths. The rate of cases and deaths per 10,000 of urban population was 11.98 and 4.02 respectively, showing, when compared with the preceding year, an increase of 4.23 cases and 1.31 deaths.

Typhoid Fever The total number of

cases of typhoid fever in 1933 was 38,529 cases and deaths therefrom 7,232, showing an increase of 3,010 cases and 731 deaths when compared with the preceding year. The ratios of these cases and deaths to the population in the same year were 5.78 cases and 1.08 deaths per 10,000 inhabitants showing, when compared with the preceding year, an increase of 0.37 cases and 1.10 deaths.

The total number of cases of typhoid reported for urban districts only during the year was 17,647 which corresponds to 45.80 per cent. of the total number of cases for the whole country. Of the above number, there were 3,585 deaths.

The ratios of these cases and deaths per 10,000 of urban population was 8.44 and 1.71 respectively, showing, when compared with the preceding year, an increase of 1.02 cases and 0.29 deaths.

Paratyphoid Fever The total number of cases of paratyphoid fever in 1933 was 5,305, of which 358 ended fatally, showing, when compared with the preceding year's figures, an increase of 483 cases and a decrease of 38 deaths.

The ratio of these cases and deaths to the population in the same year were 0.79 cases and 0.05 deaths per 10,000 inhabitants, showing, when compared with the preceding year, an increase of 0.06 cases and a decrease of 0.01 deaths.

The total number of cases of paratyphoid fever reported for urban districts only in 1933 was 2,090 which corresponds to 39.40 per cent. of the total number of cases for the whole country, and the deaths therefrom numbered 174.

The ratio of cases and deaths per 10,000 of urban population was 1.00 and 0.08 respectively, showing, when compared with the preceding year, a decrease of 0.14 case and an increase of 0.01 death.

Smallpox In 1933 smallpox broke out in Tokyo and other 27 prefectures, the total number of cases being 375 with 56 deaths. The ratios of these cases and deaths to the population in the same year were 0.06 case and 0.01 death per 10,000 inhabitants. The largest number of cases occurred in Kagoshima prefecture, it being 112 cases with 14 deaths; in the other prefectures the number of cases was all less than 36. (In 1932 there occurred 305 cases with 45 deaths). The total number of cases of smallpox in urban districts was 135 (16 deaths), corresponding to 36.00 per cent. of the total number of cases for the whole country, and the ratio to 10,000 of urban population shows 0.06 case and 0.01 death.

Typhus In 1933 four cases of typhus broke out, one in Osaka prefecture (in urban district) and three in Hyogo prefecture of which two occurred in urban district (with 1 death) and one in rural district. (There were 3 cases in 1932 with 2 deaths).

Scarlet Fever The total number of cases of scarlet fever in 1933 was 12,631 with 408 deaths, showing, when compared with the preceding year's figures, an increase of 4,374 cases and 73 deaths.

The ratio of these cases and deaths to the population in the same year were 1.88 cases and 0.06 deaths per 10,000 inhabitants. Compared with the preceding year, there was an increase of 0.63 in the ratio of cases while the death-rate increased by 0.01.

The number of scarlet fever cases which broke out in cities throughout the country in 1933 was 10,363, representing 82.04 per cent. of the total number of cases in the whole country. Of these there were 302 deaths. The proportion of these cases and deaths per 10,000 of urban population was 4.95 and 0.14 respectively,

showing, when compared with the preceding year, an increase of 2.17 cases and 0.04 deaths.

Diphtheria The total number of cases of diphtheria in 1933 was 28,545 with 5,274 deaths, showing, when compared with the preceding year's figures, an increase of 6,679 cases and 916 deaths.

The proportion of these cases and deaths to the population in the same year was 4.25 cases and 0.78 deaths per 10,000 inhabitants, showing, when compared with the preceding year, an increase of 0.95 case and 0.12 death.

The number of cases of diphtheria which broke out in cities throughout the country in 1933 was 14,118 which represents 49.46 per cent. of the total number for the whole country. Of these, there were 2,416 deaths and the ratio of these cases and deaths per 10,000 of urban population was 6.75 and 1.16 respectively, showing, when compared with the preceding year, an increase of 2.62 cases and 0.46 death.

Epidemic Cerebrospinal Meningitis The total number of cases of epidemic cerebrospinal meningitis in

1933 was 359, of which 221 ended fatally, showing, when compared with the preceding year's figures, an increase of 121 cases and 59 deaths. The proportion of these cases and deaths to the population in the same year was 0.05 case and 0.03 death per 10,000 inhabitants, showing an increase of 0.01 both in the ratio of cases and deaths on the preceding year.

The number of cases of epidemic cerebrospinal meningitis in cities throughout the country in 1933 was 219, which represents 61.00 per cent. of the total number of cases in the whole country. Of these cases, there were 142 deaths, and the proportion of these cases and deaths to the urban population in the country was 0.10 case and 0.07 death per 10,000 inhabitants, showing, when compared with the preceding year, an increase of 0.03 cases and 0.02 deaths.

Plague No cases of plague occurred in 1933.

The following table gives the condition of cholera and four other infectious diseases in the country during the fifty years since 1884:

FIFTY YEARS OF INFECTIOUS DISEASES

	Cholera		Dysentery		Typhoid fever	
	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes
1884	0.24	0.67	6.01	9.68	5.56	9.57
1885	3.64	11.32	12.46	12.97	7.38	8.10
1886	40.15	14.43	6.26	7.22	17.05	14.57
1887	0.31	0.87	4.09	5.65	12.01	13.02
1888	0.20	0.61	6.60	8.69	10.87	12.18
1889	0.18	0.53	5.62	7.39	8.81	10.54
1890	11.23	42.91	10.41	10.60	8.48	10.31
1891	2.70	9.10	11.23	13.15	10.65	11.28
1892	0.21	0.55	16.99	18.76	8.55	9.50
1893	0.15	0.39	39.78	44.11	8.10	8.74
1894	0.13	0.37	36.57	44.91	8.64	9.49
1895	12.81	43.49	12.24	15.68	8.60	9.83
1896	0.34	1.00	19.54	14.72	9.67	10.14
1897	0.20	0.56	20.54	26.49	6.07	6.69
1898	0.15	0.42	20.81	25.12	5.79	6.39
1899	0.19	0.53	24.59	25.82	6.26	7.01
1900	0.08	0.25	10.34	11.16	5.33	5.89

MEDICINE AND SANITATION

	Cholera		Dysentery		Typhoid fever	
	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes
1901	0.02	0.07	10.97	11.68	5.33	5.80
1902	2.92	9.62	8.09	8.80	4.61	5.01
1903	0.03	0.10	6.50	7.74	4.04	4.61
1904	0.00	0.00	4.82	5.41	4.16	4.84
1905	—	—	7.93	8.57	4.78	5.25
1906	—	—	4.59	5.88	5.19	6.17
1907	0.74	2.48	5.08	5.85	5.29	5.59
1908	0.13	0.39	6.38	7.62	4.76	5.18
1909	0.07	0.02	5.61	6.22	5.03	4.97
1910	0.56	1.90	6.33	6.85	6.98	7.35
1911	0.00	0.00	5.37	5.51	6.68	6.26
1912	0.53	1.62	4.96	5.52	6.09	6.06
1913	0.01	0.02	3.20	3.59	5.29	5.30
1914	0.00	0.36	4.87	5.19	6.61	6.01
1915	—	—	3.88	3.99	6.70	6.52
1916	1.88	5.27	4.07	3.83	7.56	7.07
1917	0.16	0.45	2.67	2.63	6.28	6.05
1918	—	—	2.46	1.89	7.59	6.61
1919	0.52	2.09	2.30	1.98	9.72	6.92
1920	0.89	2.16	2.27	2.05	9.63	7.15
1921	0.01	0.01	2.19	2.28	8.83	8.25
1922	0.13	0.22	2.67	2.12	9.08	5.70
1923	0.00	0.00	3.47	5.53	9.00	8.53
1924	—	—	3.15	5.77	9.87	10.04
1925	0.10	0.31	2.46	5.49	7.66	7.51
1926	0.00	0.01	2.83	6.63	7.26	7.65
1927	0.00	0.00	3.49	7.81	6.12	6.04
1928	0.00	0.00	4.06	9.06	6.77	6.63
1929	0.03	0.09	4.81	10.02	5.93	5.94
1930	—	—	4.61	10.57	6.43	6.68
1931	—	—	4.54	9.93	5.85	6.12
1932	—	—	4.86	10.95	5.36	5.53
1933	—	—	5.66	11.91	5.73	6.06

	Smallpox		Diphtheria	
	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes
1884	0.45	0.66	0.60	2.03
1885	3.33	4.04	0.74	1.75
1886	18.89	19.71	0.84	1.55
1887	10.07	13.22	0.69	1.90
1888	1.01	1.13	0.64	1.92
1889	0.33	0.40	0.66	1.83
1890	0.07	0.03	0.60	1.75
1891	0.87	0.85	0.83	2.32
1892	8.10	9.36	1.05	2.82
1893	9.96	12.66	1.36	3.42
1894	2.93	3.94	1.25	3.42
1895	0.30	0.31	1.42	3.54
1896	2.44	3.75	1.96	3.64
1897	9.46	14.03	3.49	6.38
1898	0.40	0.41	4.50	7.24
1899	0.27	0.27	4.76	7.24
1900	0.02	0.00	4.00	6.22
1901	0.02	0.00	3.29	5.03

Note: In the figures for dysentery after 1922, those of "Ekiri" are included.

TUBERCULOSIS, TRACHOMA

	Smallpox		Diphtheria	
	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes	Cases per 10,000 inhabitants	Deaths per 1,000 deaths from all causes
1902	0.01	0.01	3.28	4.50
1903	0.02	0.01	2.99	4.48
1904	0.25	0.25	2.68	3.89
1905	0.06	0.00	2.77	3.86
1906	0.10	0.11	2.92	4.38
1907	0.21	0.43	3.01	4.22
1908	3.51	5.67	3.46	4.93
1909	0.01	0.00	3.63	4.65
1910	0.02	0.01	3.78	4.92
1911	0.04	0.03	3.93	4.79
1912	0.00	0.00	3.72	4.59
1913	0.02	0.04	3.65	4.88
1914	0.09	0.10	3.42	4.16
1915	0.00	0.00	3.62	4.81
1916	0.05	0.04	2.94	3.33
1917	0.91	0.97	3.12	3.65
1918	0.26	0.19	2.77	2.58
1919	0.72	0.57	2.54	2.30
1920	0.57	0.58	2.71	2.38
1921	0.16	0.16	2.56	2.72
1922	0.12	0.06	2.38	1.65
1923	0.33	0.29	2.18	2.33
1924	0.29	0.21	2.22	2.53
1925	0.07	0.07	2.32	2.79
1926	0.21	0.15	2.26	2.89
1927	0.06	0.08	2.48	3.04
1928	0.12	0.09	2.83	3.30
1929	0.02	0.01	3.13	3.60
1930	0.00	0.00	2.88	3.25
1931	0.00	0.00	3.23	3.54
1932	0.05	0.04	3.30	3.71
1933	0.06	0.05	4.25	4.42

Expenses The amount of infectious diseases prevention expenses defrayed out of the National Treasury in the fiscal year 1933 (from April, 1933 to March, 1934) was ¥1,396,983.

In addition to the above, the amount of grants-in-aid from the National Treasury for infectious diseases prevention expenses incurred

by Hokkaido and the prefectures (in the cases of sanatoria for tuberculosis, by cities) was ¥1,568,064.

Tuberculosis

The following table shows the results of health examinations conducted in 1933 by the prefectural governments.

	1933	Compared with the preceding year
Estimated number of persons requiring health examination	1,835,992	47,516 (decr.)
Number of persons examined	1,526,142	84,000 (incr.)
Number of persons diagnosed as tuberculous	403	87 (decr.)
Ratio of the tuberculous per 1,000 of the examined	0.26	0.05 (..)
Number of persons ordered to suspend from work	64	33 (..)

Trachoma

The following table shows the re-

sult of examinations conducted by the prefectural governments during 1933.

	1933	Compared with the preceding year
Number of persons examined	5,901,344	127,895 (decr.)
Number of trachoma patients		
Severe cases	42,392	1,327 (")
Mild cases	444,550	6,487 (")
Suspected cases	122,894	8,047 (")
Total	609,836	15,861 (")
Ratio of patients per 100 persons examined	8.85	0.40 (")
Number of patients ordered to suspend from their work	202	42 (incr.)

Vaccination

The total number of the 1st period vaccination performed in 1933 was 2,082,671 of which 1,932,762 proved positive and 87,269 negative while 62,640 were not examined of the result of vaccination. Compared with the figures of the preceding year, there was an increase of 33,107 in the total number of vaccination, and of 24,895 in the number of positive vaccination and 10,935 of negative vaccination and 2,723 cases where results not yet examined.

The total number of the 2nd period vaccination was 1,898,386 of which 1,104,957 proved positive, 761,457 negative and 31,972 yet unexamined, showing, compared with the figures of the preceding year, a decrease of 21,548 in the total number vaccinated and 61,240 in positive takes, an increase of 42,221 negatives and a decrease of 2,521 unexamined cases.

The following table gives the percentages of successful vaccinations (the percentages for the preceding four years are also given for comparison.)

		1933	1932	1931	1930	1929	
		%	%	%	%	%	
First period	Public vaccinations	First time	96.46	96.94	95.90	96.78	96.88
		Second time	77.62	79.40	77.67	78.80	79.54
	Private vaccinations	First time	98.00	97.79	98.22	97.68	98.08
		Second time	71.22	78.70	88.24	72.83	68.15
Second period	Public vaccinations	First time	67.16	70.07	66.92	62.37	63.80
		Second time	28.55	25.34	23.60	21.61	23.60
	Private vaccinations	First time	76.59	59.31	56.10	49.86	58.99
		Second time	30.48	36.07	26.95	23.58	30.98

Special vaccinations were carried out in 1933 in Tokyo and other 28 prefectures, and the number of persons vaccinated at these vaccinations was 3,458,489.

Port Quarantine

The total number of vessels inspected in 1933 by harbour offices and temporary port quarantine stations was 19,339 Japanese vessels (with a total tonnage of 66,008,065) and 3,273 foreign vessels (with a total tonnage of 25,989,104), making a total of 22,612 vessels (with a total tonnage of 91,997,169). The total number of persons inspected was

2,288,840 of which ship's crew numbered 1,314,487 and passengers 974,353. Compared with the corresponding figures of the preceding year, the number of vessels increased by 1,147 and that of crew and passengers by 119,761. By these inspections were found 2 persons suffering from smallpox, 5 from scarlet-fever and 21 from other notifiable infectious diseases, making a total of 28 cases. (There was no death from these diseases during the year.) Compared with the preceding year, this shows a decrease of 10 patients.

Of the above mentioned vessels inspected, 10 vessels and 234 per-

sons thereon were subjected to disinfection. When compared with the preceding year, there was a decrease of 459 vessels and 1,579 persons. The vessels subjected to detention numbered 6, being a decrease of 29 when compared with the preceding year. The destruction of rats and insects was carried out on 1,258 vessels and 5,318 rats were caught, which, compared with the preceding year, shows an increase of 91 in the number of vessels and a decrease of 348 in that of rats.

Health Examination of Prostitutes

The prostitute quarters actually existing at the end of 1933 (the term prostitute quarters does not here and hereinafter necessarily mean segregated quarters, but is also intended for convenience's sake to include all places where licensed prostitutes have been permitted to carry on their trade) numbered 476, being a decrease of 16 on the preceding year. The daily average during the year of licensed prostitutes in these quarters was 48,687, showing a decrease of 1,138 on the preceding year.

The number of health-examination offices for these prostitutes was 430,

and the total number of cases examined in these offices was 2,910,837, and in 57,214 cases the prostitutes were found diseased. The ratio of cases of disease to the total number examined was 1.97 per cent. or 0.09 per cent. lower than in the preceding year. The number of hospitals (including places for treatment lacking hospital accommodations) for admitting these diseased prostitutes was 170, and the average number of times a prostitute was admitted into hospital during the year was 1.18 or 0.07 less than in the preceding year.

The following table gives the number, classified according to disease, of prostitutes in the whole country who were during the year found to be diseased upon examination. When two or more diseases are found in the same person, the one which appears first in the table is taken to be the principal disease; thus for instance, if a person is suffering from both syphilis and gonorrhoea, she is taken to be infected with the former disease and the latter is added to the number in brackets under gonorrhoea (the percentage for the preceding four years are also given for comparison).

	Number of cases in 1933	Ratio in percentage to the total number of cases of disease				
		1933	1932	1931	1930	1929
Syphilis	8,957	6.92	7.02	6.46	5.65	6.26
Gonorrhoea	26,482 (996)	48.03	49.99	52.44	53.57	50.30
Chancroid	15,847 (1,796)	30.84	30.08	27.04	26.97	28.89
Ulceration	3,694 (688)	7.66	7.14	8.21	7.49	7.38
Infectious skin-diseases	223 (59)	0.49	0.41	0.53	0.45	0.47
Tuberculosis	9 (4)	0.02	0.04	0.05	0.01	0.02
Leprosy	— (—)	—	—	—	—	—
Trachoma	1,245 (32)	2.23	2.96	4.40	3.36	3.17
Other diseases	5,755 (299)	10.58	10.98	10.10	11.75	10.21
Total	57,214					

Note: In the percentage of cases of diseases, the diseases which are found in one and the same person are taken as separate cases, so that their total exceeds 100.

Rabies

There was no case of rabies in men in 1933. (In 1931, there was one case).

The number of rabid animals reported in 1933 was 22, showing a decrease of 41 on the figures for the preceding year.

The number of persons bitten by

rabid dogs in 1933 was 20 showing a decrease of 92 on the preceding year.

The number of persons who had preventive injection for rabies in 1933 was 3,030, showing an increase of 175 on the preceding year. Of the above number, 20 were those who had been bitten by rabid dogs, and 3,010 by animals suspected of rabies.

Bacteriological Laboratories

The number of bacteriological laboratories at the end of 1933 was 202 consisting of 142 which were established by prefectural governments,

19 by cities, 1 by towns or villages and 40 by private individuals, showing a decrease of 2 in the total number on the figures of the preceding year.

The number of bacteriological examinations made in 1933 were 3,428,637 of which those connected with the notifiable infectious diseases were 3,137,323 and those not connected therewith 291,314, showing a decrease of 234,189 in the total number of examinations on the figures of the preceding year.

(On vital statistics of the Japanese see Chapter II.)

CHAPTER XXXIII

PROGRESS OF SCIENCE

Geophysics

Volcanic Activities in Japan during the Period between June, 1931 and June, 1934

By Hidezo Tanakadate

Tisima Zone

(a) Alaid Island

Alaid island, a conical volcano with an altitude of 2,339 m. a. s. l., is the northernmost of the Kuriles, and lies westward of the Lopatka cape of Kamchatka, as well as the islands of Syumusir and Paramusir of the Kuriles. A new volcano islet appeared close to this island.

1933. October 20—November 10, numerous earthquakes were felt at Murakami Bay in Paramusir Island, 28 km. S-E from Alaid.

On November 13, enormous smoke cloud was seen from the same bay.

1934. On January 26, when the S. S. Hakuho-Marui, a watch boat of the Fishery Department of the Government, was passing near the island, a new volcanic islet came in sight among the eruptive scene, where the sea was more than 20 m. deep before the eruption. It was circular in shape, measuring about 200 m. in diameter and 50 m. in height, and was crowned with a large horse-shoe shaped crater. The exact site of this new islet is $155^{\circ} 40' 10''$ E and $50^{\circ} 50' 30''$ N, about 900 m. off the place called Itinowatasi in the east coast of Alaid island. The outbursts were intermittent at that

time, emitting smoke clouds with scories in every one to two hours.

In the beginning of March, the following was reported by a naval boat "Otomari," which returned from a two weeks' cruise around the northern extremity of the Kuriles: When the boat passed close to the new islet at a distance of one sea-mile, they saw the island considerably enlarged in size and height as compared with that when it had been discovered by the Hakuho-Marui. The volcano was circular with a diameter of 400 m. and a height about 90 m.

General aspect of the islet was dark in colour, possibly it is composed of scoriaceous sand. The outburst was paroxysmal, each time dark smoke columns rose to a height of 1.0 km. or more.

The prefectural authority of Hokkaido named this volcano islet "Taketomi-Zima", after the name of Mr. E. Taketomi, Captain of the S. S. Hakuho-Marui.

(b) Harumukotan (Kharimkotan) Island in the Kuriles

This volcano island lies near Paramusir island in northern Kuriles and is situated at about $154^{\circ} 30' E$, $49^{\circ} 6' N$. The area of the island is about 73.55 sq. km. with a length of 13 km. in NW-SE direction, and at breadth of about 8.4 km. The volcano is crowned with a large caldera in which a central cone called Harumukotan (1,213 m. a. s. l.) stands.

1931. September 3—October 8. When a watch boat of the Fishery

Department of the Government first visited the island on September 3rd, no unusual scene could be seen there. At the time of its second visit on October 8th, however, the north-western half of the island was covered with volcanic ash. In the western coast where land-slide had occurred several times, the ash was thickest. It is probable that the volcano made an explosion in the month of September.

1933. On January 8, 4.00 a. m., an outburst took place with a huge column of dark smoke, and thereby the upper half of a volcanic hill standing at the south-eastern side of the island, was blown. The lava blocks fell abundantly on the northern part of the island, where the warehouse of the fox-farm station stands. Soon after the explosion, a tremendous tidal wave occurred along the coast of the island and thereby ice floes were carried ashore. It is said that the tidal wave attained a height of about 9 metres above sea level. In the islands of Onnekotan and Paramisir earthquakes were felt three times, tidal waves having been accompanied by each shock.

Nasu Zone

(c) Tarumai

This is the most active volcano in North Japan, but it has not shown any remarkable outburst during the past five years up to the end of 1933.

1933. On December 1, 6.24 p. m., a violent explosion took place after loud roarings which lasted about five minutes. A huge column of dark smoke rose directly above the volcano at first, then it inclined toward WNW at an altitude of 1 km. Volcanic ash rained in an elliptic area, 10 km. in extent in the north-westward direction. By this explosion the main fissure running across the dome

from W to E seems to have been extended, so that the volcano became more active than before, sending enormous quantity of smoke. A new fissure appeared on the atrio surface at the eastern foot of the dome; it is a continuation of the main fissure and runs toward ENE for a distance of about 250 m. It was 7 metres wide utmost, and had a branch about 30 metres long. The fissure was active in several parts therefrom sending sulphurous gas.

The position and the course of the fissures did not much differ from those occurred in the case of the explosive eruption of 1917.

On December 5, 4^h 35^m 19^s a. m., a strong earthquake was registered on the seismogram of the Muroran meteorological observatory, about 65 km. SW from the volcano.

On December 6, early in the morning, two earthquakes of volcanic character were felt in Mōrap, NE foot of the volcano.

On December 11, 2.0 p. m., a big explosion with a smoke cloud.

On December 14, 10.0 a. m., after an explosion smoke column of 400 m. high stood above the crater and at 3.0 p. m., it attained a maximum height of 700 m.

The materials, including detritus, lapilli, ash, etc., thus ejected by the above-mentioned outbursts belong to two pyroxene andesites, which had been probably derived directly from juvenile mass.

It is noteworthy that the time-interval between two paroxysms in the recent eruptive period of this volcano was almost constant, being 12-13 days. By this eruption, also, the time-interval between the first paroxysm and the second was 10 days and that of the second and the third was 13 days.

(d) Akita-Komagadake

This volcano belongs to the Nasu-

Zone and is situated in the north-east Japan. Its base consists mostly of the neogene rocks, such as shale, sandstone, marl, tuffaceous rocks, etc. The volcano rose early in the Quaternary period on the erosion relief of the above-mentioned sedimentaries, which attain a maximum height of 1,000 m. a. s. l.

The volcano is crowned with a large caldera of horse-shoe form, opening towards south-west. The major axis, which lies in the above-mentioned direction, is about 1.5 km. long. The highest peak is Onamedake (1,637 m. a. s. l.) and the next Odake (1,632 m. a. s. l.); both stand near the rim of the caldera and to the north of it. Two central cones, called Medake (more than 1,500 m. a. s. l.) and Yokodake (more than 1,400 m. a. s. l.) rise in the north-eastern part of the caldera.

The volcano consists of hypersthene andesite containing either common augite or olivine, sometimes both of them.

It is said that a point somewhere in the south-east of the somma had been fuming until about 1902. But the volcano was dormant from untold ages until its recent explosion in 1932.

1932. On July 20, between 1.00 p. m. and 2.00 p. m. people who were in a cottage on the eastern piano, 9 km. from the volcanic peak, heard two thundering detonations. Ash fell on the south-eastern foot of the cone.

On July 21, 6.00 p. m., in a spa called Kunimi, 2.5 km. south-east of the active scene, the ground was in strong vibration and the people heard detonations towards the peak. The weather was rainy, so that no one ventured to visit the scene of the explosion.

On July 22, 7.00 a. m.; 23, 6-7.00 p. m., 24, 6-7.00 p. m., detonations like thunder were heard towards

the peak.

On July 24, ash covered thickly the eastern foot of the volcano.

The people in the vicinity visited the crater at first on July 26, and found that the explosion occurred just in the southern foot of the central cone at the bottom of the atrio, which is 1,000-1,150 m. high a. s. l. and is covered with thick forest. By this explosion, eight or more explosion pits were formed: five on a line trending south-west and three, which are connected with each other, on a line trending south-south-west.

The largest pit is 70 m. long, 40 m. wide and 18 m. deep.

Some pits were emitting steam gas, SO₂, H₂S, etc., towards the end of the month of July.

Big ejectamenta, scattered within a distance of 200 metres from the pits, were rarely 2 m. in diameter. The area covered with ash extended about 2 sq. km. mostly to the eastward of the pits.

The explosion materials are not likely to have been derived directly from the juvenile mass.

Some notable phenomena associated with the present explosion are as follows:

(1) The cold water spring which was gushing out near the end of the barranco, changed into carbonated one without rising in temperature.

(2) The temperature of the hot spring of Kunimi, increased considerably after the explosion. It was 36.5° C before the explosion, but soon after the outburst, viz., on August 3 it became 45° C and it was 49° C on October 6.

(3) In Kunimi spa, the flow of the spring also increased considerably after the explosion.

(4) The water quantity of a rivulet called Sirataki, which drains the atrio, decreased.

(5) Local earthquakes were felt at the town of Oomagari, 43 km. south-west of the volcano, both before and after the explosion.

(6) The linear arrangement of the new explosion pits seems to suggest that a tectonic line lies immediately under the earth's surface.

1933. Since March 3rd, when a tremendous tidal waves occurred in the east coast of north-east Japan, the people in the vicinity of the volcano heard frequently thundering detonations from the crater.

On 23, 10.00 a. m., the ground trembled remarkably at the foot of the volcano.

(e) Asama-Yama

According to Mr. H. Tsuya, the condition of the crater in recent years has been as follows:

The crater is circular, and is surrounded by a perpendicular wall. The bottom floor is also circular with a diameter of about 300 m.

The depth of the crater was measured as follows:

254 m. in November 1931,

165 m. in October 1932,

129 m. on July 8, 1933.

In the middle of October, 1932, the crater depth was about 150 m., and a dome of red hot lava stood at the central part of the bottom floor. The rising and sinking of the dome was often clearly observed when the volcano was in an explosive activity. The height difference due to such movement amounted sometimes approximately to 50 m. in a single day. In 1933 this phenomenon could be seen no more. In the summer of 1933, a lava pit appeared at north-eastern corner of the crater bottom just under the wall cliff. The pit was 10 m. in diameter and contained red hot lava, with fragments of new lava scattered around it.

1931. On June 9, 2.10 p. m., the

volcano which had been in repose since the last autumn broke its silence with an explosion, accompanying a strong earthquake.

On June 22, 3.30 p. m.; 23, 9.50 p. m., ash explosions.

On June 25, 7.00 p. m., a strong detonation and ash shower.

On June 26, 28, and 29 ash explosions.

On August 5, at 3.40 p. m., an ash explosion.

On August 6, 1.50 p. m., an explosion; 7.05 p. m., roarings and tremors accompanying an outburst.

On August 7, 3.00 a. m., red hot ejectments of lava were hurled up in the dark sky; 3.05 p. m. a smoke explosion.

On August 10, 10.03 a. m., a smoke explosion.

On August 11, 10.00 a. m., smoke increasing; again at 4.00 p. m., an explosion with strong detonations.

On August 12, six earthquakes of volcanic origin.

On August 13, thirteen earthquakes of volcanic origin.

On August 14, from 6.00 a. m. to 3.00 a. m. next day, 376 shocks were registered on the seismogram of the Oiwake meteorological station situated at the southern foot of the volcano, while the eruption on 14th, at 11.30 a. m., was most violent for the two days.

On August 10, 8.15 a. m., a violent explosion with loud detonation. The seismogram in the Nagano meteorological station, 30 km. north-west of the volcano, recorded tremors of a maximum amplitude of 58 microns. It began at 8^h 13^m 39^s a. m. and continued for 4^m 50^s. Large lava blocks, lapilli, sands, etc., were projected towards the east. At the Oiwake meteorological station, tremors recorded 23 times in 24 hours since 6.00 a. m. on the 19th.

In the morning of August 20 two explosions took place, each accom-

panying an earthquake. Both earthquakes were recorded on the seismogram of the Nagano meteorological station, one which occurred at 3.21 a. m., continued for 21^m 4^s, while that of 9.44 a. m. continued for 4 minutes. By the first explosion, the red hot blocks of lava were projected very far from the volcano and fired the forest at its southern foot. By the second one, the smoke column attained an altitude of 12 km. above the crater. The earthquakes occurred with the outbursts of the 19th and 20th were instrumentally registered at the Seismological Institute of the Tokyo Imperial University, about 140 km. south-east of the volcano.

By these two outbursts, the ejected lava blocks gave heavy damages to the roads around the volcano. Lava blocks of 2 cubic metres were scattered on the crater rim. The thundering sounds associated with the first explosion were audible in Gihu city, 200 km. south-west of the volcano, while the area covered with ash extended to Hida province towards the west and to Gumma prefecture towards the east.

The earthquakes, which were associated with the present explosion, and which were instrumentally recorded at the Seismological Institute of the Tokyo Imperial University, are tabulated as follows:

Date	Time of the first shock			Maximum amplitude	Period
	h	m	s		
1909	XII	7	10h 43m 55s	0.177 ^a	5.7 ^s
1921	VI	4	17 06 59	0.049	3.8
1921	VI	21	17 42 17	0.104	6.2
1929	IX	18	1 08 30	0.120	4.6
1930	VI	11	8 10 44	0.025	3.4
1931	VIII	19	8 13 47	0.025	4.3
1931	VIII	20	8 21 35	0.029	4.9
1931	VIII	20	9 44 19	0.032	4.8

On August 22, at 3.00 a. m., an ash explosion.

On August 27, at 8.00 p. m., a fire column.

On August 29, at 6.00 p. m., a smoke explosion.

On September 2, 1.20 p. m., the earth shook for two minutes, then an explosion with huge detonations followed; lava blocks fell on the flank of the mountain, causing heavy damages to the villages in the vicinity.

On September 3, 4 and 5 ash explosions with detonations.

On September 6, 0.30 p. m., ditto.

On September 13, 4.00 a. m., two earthquakes at first, then an explosion with detonations. In the town of Taira, near the coast of the Pacific Ocean, 220 km. east of the volcano, fine ash veiled the sky in the early morning of the same day.

On September 1-18, 64 tremors were observed at Oiwake.

On October 21-24, 43 tremors were observed.

On October 21, 23 small explosions.

On December 8, 7.33 a. m., a great explosion took place with smoke clouds of pine form, which rose 6 km. high above the crater. The meteorological station of Maebashi, about 35 km., east of the volcano, reported that the explosion was the strongest since September, 1928.

By the air shocks, about 40 pieces of window panes were broken in Karuizawa railway station, 10 km. south-east of the crater.

The eastern flank of the volcano was covered with large lava blocks while the town of Karuizawa was showered with lapilli for 5 minutes.

In a region more than 20 km. south of the crater including three villages,

Iwata, Konuma and Saku, the air shook very strongly. It is said that the explosion was the most violent in the last 30 years.

In the city of Maebasi, the ash shower began at 7.45 a. m. lasted for 20 minutes.

At the city of Nagano, the earth shook as large as 32 microns at maximum.

In the region of Titibu, about 80 km. south-south-east of the volcano, an air shock was felt very strongly at first, then at about 9.30 a. m. ash veiled the sky. In the city of Kumagai, 80 km. south-east of the volcano, ashes showered from 8.50 a. m. to 9.18 a. m. Ashes precipitated even in the city of Noda, 150 km. south-east of the volcano, at 8.00 a. m., and also in the harbour of Yokohama, 150 km. south-south-east of the mountain, at about 11.30 a. m.

1932. On February 15, 6.55 a. m., an ash explosion with detonations. In the city of Maebasi ashes fell between 7.50 a. m. and 9.00 a. m.

On February 18, 0.45 a. m., dark smoke emissions,—9.30 a. m., another explosion accompanied by detonation.

In both cases ashes rained in the town of Karuizawa.

On February 19 and 20, minor explosions.

On February 24, 10.24 a. m., an explosion of dark smoke accompanying showers of lapilli and ash in the eastern foot of the volcano.

At the south-eastern foot of the mountain a forest took fire by the glowing projectiles. Again at 4.45 p. m. another explosion.

On February 28, 9.15 p. m. an explosion.

Through the month of March, the crater was in an eruptive activity, throwing ash continuously. Explosions were paroxysmal on the following days: March 1, 2, 3, 8, 10, 11, 12, 14, 15, 16, 18, 25, 26, 28, 30,

31. Among those occurred in March the more violent outbursts are described in the following lines.

On March 1, 4.00 a. m.; 3.10 p. m., 6.00 p. m., ash explosions.

On March 2, 9.10 a. m., a dark smoke explosion with showers of projectiles, among which lava blocks of two cubic metres were found on the eastern flank of the volcano. Sand and ash covered an extensive area, east of the crater, they reached the city of Takasaki, 35 km. south-east-east of the volcano.

On March 3, 9.18 a. m., an explosion.

On March 10, 10.50 a. m., an explosion with smoke columns, 1.5 km. high above the crater rim.

On March 11, 4.11 a. m., explosions with three detonations like thunder.

In the spa of Kusatu, air shocks were very strong.

On March 16, 7.00 a. m., an explosion.

On March 18, 0.15 a. m., a fire column accompanying red hot projectiles.

On March 25, 8.25 a. m., smoke clouds and showers of red heated lapilli in the region east of the volcano. At about 9.30 p. m., ashes precipitated in the city of Tokyo.

On March 30, 4.03 p. m., an explosion, ashes showered in the city of Takasaki.

On April 1, 1.25 p. m., an ash explosion.

On April 2, 3.20 p. m., an explosion.

On April 4, 4.00 p. m., an explosion.

After this explosions were observed on 13, 14, 16, 25 and 26. In the month of May, the explosions were observed on 1, 5, 8-11, 13, 16-20, 23 and 28-29, of which the followings are more important.

On May 1, 2.10 p. m., an explosion with detonations and ash showers.

On May 4, 6.00 a. m., an outburst, accompanied by an earthquake of a maximum amplitude of 4 microns at the Nagano meteorological station.

On May 5, 5.55 p. m., a strong explosion with a heavy rain of ash on the eastern neighbourhood. In the city of Kumagai, ashes showered at about 9.50 p. m.

On May 9, 7.15 a. m., an explosion with ash shower, which damaged the mulberry plantations in the regions of Takasaki as well as Saitama, near Tokyo.

On May 11, 2.00 p. m., an explosion with dark smoke.

On May 18, 6.30 p. m., an explosion.

On May 19, 1.20 p. m., an explosion.

On May 28, 1.19 p. m., an ash explosion with detonation and fire.

On May 29, 4.28 p. m., an explosion.

In the month of June, explosions were big on the days; 4-5, 7-10, 12-14, 24-26 and 28-30, of which, the stronger ones were as follows.

On June 24, 2.00 a. m., an explosion with tremblings, which continued until the 25th, 7.00 a. m.; 51 tremors were recorded on the seismogram of the Oiwake meteorological station.

On June 25, 2.00 p. m., a strong explosion.

On June 28, 9.06 a. m., an explosion with detonations which were heard in the region of Titibu, 85 km. south-east of the volcano. In the vicinity the clocks were stopped by air shocks.

On June 29, 4.30 a. m., an explosion accompanying an earthquake, by which a railway train was obliged to stop for 7 minutes at a point between Oiwake and Kutukake in the southern foot of the volcano.

In the month of July, the explosions were violent on 1-3, 9-13, 15-

19, 23-24 and 29-30, of which only two were big.

On July 3, 5.03 a. m., an outburst.

On July 10, 6.00 a. m., an explosion with roarings and tremblings which continued about 24 hours.

In August the frequency of tremors decreased.

On September 3, 3.00 p. m., an explosion took place with detonations, then ashes showered in the region of Matuida and Annaka near Takasaki.

After this eruption, the crater was quiet for a long time, but tremors originated in the volcano were often registered on the seismogram of Oiwake on the following days.

1932: November 2 and December 2, outbursts.

1933: January 9, February 5, March 8, April 11, May 1, June 6, July 10 and August 3, explosions.

1934. On January 9, 4.45 p. m., a smoke explosion with thundering sound.

On February 11, 2.00 a. m.—7.30 p. m., in each case, dense smoke was vomitted and ash-rain followed.

(f) Kusatu-Sirane-San

As this volcano manifested a remarkable explosion in October, 1932, a brief description about the volcano will be given at first.

The volcano stands north of Asama-Yama, 25 km. from it. The base of the volcano consists of the neogene formation with gravels, shales, marls, tuffs, breccias, etc. Here and there it is penetrated by intrusive mass of porphyrites, etc.

The eruptive activity of this volcano began at the close of the Tertiary epoch. In the first stage, ash, pumice, volcanic breccia, etc. were emitted; in the second stage, lava issued principally. The lavas of this volcano belong mostly to the two pyroxene andesites, such as quartz bearing one; quartz-biotite-

bearing one; biotite-bearing one; olivine-bearing one, etc.

The volcano has two peaks on the top: Moto-Sirane-San, one of the two, is the peak of the volcanic cone and is 2,176 m. a. s. l., while Sirane-San, the other, is a side cone and is 2,162 m. high a. s. l. Sirane-San stands north of Moto-Sirane-San and is joined to it with a saddle-shaped rise. The cone of Sirane is likely to be a monogene volcano crowned with a circular shallow depression, of which the diameter is about 600 m. Three combined explosion craterlets are situated in the eastern part of the above-mentioned depression, and lie on a line, running in north-west-west direction.

Each of the craterlets is circular in shape and surrounded by a steep wall except those parts where two make contact. They are called Midugama, Yugama and Karagama; Midugama (water caldera), the eastern one, is 200 m. in diameter; Yugama (hot water caldera), the central one of the three, is 250 m. in diameter while Karagama (empty caldera) the western one, is 150 m. in diameter.

On the floor of the crater bottom of Yugama, sulphur has been mined for a long time.

The history of the activity of this volcano is as follows: About 120 years ago, the volcano was fuming constantly, but since it was in repose for about 70 years.

1882. On August 6, 2.00 p. m., Yugama showed a big explosion after long repose, ejecting lava blocks, lapilli, etc. At the same time mud flowed out from the crater.

This outburst continued more than ten days.

1897. In January, roarings began and they continued with increasing intensity and frequency until the month of July.

On July 8, 4.00 a. m., Yugama

manifested a paroxysmal explosion, which terminated in a short time, so that the sulphur miners could work again soon after.

On July 31, 5.00 a. m., another explosion took place in the Yugama craterlet and a sulphur miner was wounded by a barrage of projectiles. Several new pits as well as fissures were formed by this outburst.

On August 2, 2.00 a. m., and 2.30 p. m., explosions took place and a sulphur miner was wounded by the ejectamenta. The activity continued until the 16th of the same month.

1900. On October 1, an explosion.

1902. On July 15, 4.00 p. m., an explosion occurred on a hill standing near the saddle part between the two peaks, Sirane and Moto-Sirane.

On August 20, another explosion.

On September 4, an ash explosion.

On September 17, 1.00 p. m., an explosion occurred continuing four days.

On September 23, and 24, explosions.

1905. In October, explosions.

About in the year 1910, the water of Yugama lake was boiling. The water temperature of the lake measured in the year 1916, showed 50°C and the several subaqueous pits were spattering water spray on the surface.

1925. On January 22, an explosion occurred and thereby a fissure, 20 m. long and 7 m. wide, was formed on the wall of the craterlet of Yugama.

1927. On December 29, 7.00 a. m., an explosion and 30, 9.00 a. m., roarings; and 31, 11.00 a. m., an ash explosion. (In the former note in the Japanese Journal of Astronomy and Geophysics, Vol. IX, No. 1, these explosions are described as the events of 1928, but they must be corrected as those of 1927.)

1932. On October 1, 1.54 p. m., an explosion took place in the Yu-

gama craterlet, and lava blocks, lapilli were ejected and mud flowed from a new pit. Twenty miners, who were working just at the moment of the eruption in the floor of the crater bottom, came under a barrage of projectiles, and two persons were killed and seven were wounded.

On October 4, 2.30 p. m., an ash explosion.

On October 6, 3.00 p. m., an explosion.

On October 8, 6.40 a. m., a minor explosion.

On October 14, 3.00 a. m.; 16, 7.40 a. m.; 18, 9.20 a. m.; explosions.

On October 23, 10.25 a. m.; an outburst took place and it continued until the evening. The explosion was paroxysmal in character, and the smoke column attained sometimes an altitude of 13 km. above the crater.

On October 24, about 10.30 p. m., an ash explosion.

On October 27, 9.03 a. m., a small explosion.

During the month of November, ash-rain fell at the spa of Kusatu, on the eastern foot, 6 km. from the Yugama craterlet.

By these explosions, ten pits were newly formed: 7 of them on the north-eastern wall of Yugama and the other on the southern shore of the lake in the same craterlet.

On November 4, 20, 23, smoke quantity augmented.

On December 18, 19, a smoke explosion.

1933. On January 7, 20, smoke increased.

On March 8, 15, 31, smoke clouds.

On April 1, smoke clouds.

On June 5, 4.00 p. m., smoke increased.

On June 11, in the morning, smoke.

On August 1, smoke clouds.

On September 7 and 18, smoke clouds.

Norikura Zone

(g) Yakedake

1931. On June 18, 11.40 a. m., an explosion took place on this volcano for the first time since May, 1927. A new crater pit, about 60 metres in diameter, was formed on the western flank of the dome at the top of the volcano, and the lava blocks of every size were scattered in the vicinity of the crater. At about 1.30 p. m., the explosion terminated.

On June 23, 2.30 a. m.—11.00 a. m.; strong explosions with rumblings and ash-rains.

On June 24, 2.51 p. m., an explosion.

1932. On February 4, smoke increased.

On February 6, 10.35 a. m., a dark smoke column, with detonations and ash precipitation at the western foot of the volcano.

Fuji Zone

(h) Hakone

1933. On May 10, 2.0 p. m., a solfatara in the Oowakidani crater exploded with a big detonating sound. As the labourers of the spas of Hakone were working near the solfataras to put conducting pipes of hot water under the ground, mud gushed up from a new pit suddenly about two metres high. A workman happened to come under the heated mud and died. The activity terminated with this single explosion.

(i) Miharayama in Oosima

1933. From the beginning of October the explosive intensity was increasing, and red hot lava was gushing out on the crater bottom. On October 14, early in the morning, an outburst took place with detonating sounds. Since that day the roar-

ings were heard very often and sometimes fire could be seen above the crater in the night.

1934. On April 18, 5.0 p. m., dark smoke covered the summit after weak rumblings. The smoke eruption continued about one hour. The eruption seems to have occurred in the following way; a part of the crater rim slipped down and the avalanched detritus pressed the surface of the lava lake on the bottom so as to cause an outburst.

(n) Iwōzima volcano

According to a newspaper, the following eruption is likely to have occurred. "On April 2, 1934, 6 p. m., the volcano Iwōzima manifested an explosion all at once in its old crater and a new pit was formed thereby." On this eruption, we can say nothing about the exact position of the volcano, as the name Iwōzima is ambiguous.

Aso Zone

(j) Aso volcano

Aso is the most active volcano in South Japan; it has repeated eruption very frequently since remote time. The active crater lies on the top of Nakadake, one of the central volcanoes in Aso caldera. The diameter of the crater is about 1 km. from N to S and about 400 m. across. The crater contains three craterlets divided by two ridges; they are called the north crater, the middle crater, and the south crater. The north crater consists of two craterlets; the northern and the southern. For the sake of convenience let us call them as follows; the first, the second, the third and the fourth crater respectively instead of the northern craterlet in the north crater, the southern craterlet in the north crater, the middle, and the south.

The eruptive centre of Aso volcano seems often to change its site. It was in the first crater in the beginning of the present century; later the fourth became active for about twenty years up to about 1930. Recent eruptions have been occurring again in the north crater, while the south is at present dormant, containing water in it.

1931. On August 18, clouds of white smoke were vomitted from the base surface of the south crater.

1932. In March, both craters, the second and the fourth, were filled with water.

In June, the first crater showed a minor explosion with rumbling sounds.

On June 27-28, mud explosions in the same crater.

On September 4, 11.00 a. m., an ash explosion accompanied by roaring sounds took place at the corner of the fourth crater.

On November 8, a smoke explosion.

On November 19, an ash explosion.

On November 24, explosions.

On November 25, 7.10 a. m., eruption was paroxysmal in its character and took place periodically every 10-15 seconds, and by the paroxysms dark smoke columns were vomitted, attaining sometimes an altitude of 200 metres above the crater rim. Large scoria were scattered near the crater while volcano sands called "yona" fell in the vicinity. By this eruption new pit, about 15 m. long and 5 m. wide, was formed on the bottom of the first crater.

On December 7, 1.07 p. m., after a big detonation, fire columns stood high in the sky, red hot scoria having been ejected up to a height of 300-400 metres above the crater rim. Each eruptive paroxysms continued about 5 minutes with an intervening repose of 10-15 seconds. A new

pit was formed on the north-western part of the wall of the craterlet.

On December 9, in the night, the air shock very strongly on the flank of the volcano about 1 km. from the crater.

1932. On December 16, from the evening to the morning of the next day, explosions were very violent accompanying prolonged detonation like thunder.

On December 17, 0.58 p. m., 1.20 p. m., and 2.12 p. m., after strong detonations red hot scoria were ejected as high as about 300 m. above the crater rim. By the explosion of 2.12 p. m., large lava blocks were thrown up; one 3 m. in diameter was found within a distance of about 300 m. from the crater. In the night, the column of red hot scoria illuminated the vicinity.

On December 18, 7.30 p. m., heavy showers of scoria fell on the crater rim and some tourists who visited the active scene just at that moment, were wounded by the ejectamenta.

On December 20, the eruptive force reduced remarkably.

1933. Since January, the lake water in the second crater diminished.

On February 11, a new pit, 30 m. in diameter, was formed by an explosion at the western rim of the second crater and hot mud of dark gray colour was gushing out from it.

On February 15, 6.40 a. m., an explosion.

On February 22, another pit was formed in the second crater.

On February 24, strong explosive paroxysms with detonatic sounds took place in every 2-3 seconds. As the period of paroxysms became longer, the eruptive force augmented more and more, until a large block of lava, 6-8 m. long and 0.5 m. thick, was thrown to a distance of 600 m. from the crater. Even scoriaceous

lava block with 1 m. diameter was ejected often to a distance of 1.2 km. while smoke column attained sometimes a height of 1 km. above the crater rim.

As soon as the maximum force of the outburst was reached on this day, the activity of the second crater became remarkably feeble. At the same time the eruption of the first crater increased rapidly.

On February 26, 27, terrific outbursts continued.

About February 28, the first and the second craters were simultaneously active with equal intensity of eruption, vomitting abundant quantity of smoke illuminated by the electric flashes.

On March 1, the first crater was more active than the second.

On March 3, the eruptive intensity of the first crater began to diminish.

On March 9, 4.00 p. m., the second crater again became more active than the other.

According to the seismogram of the Aso Volcanological Observatory, which belongs to the Kyoto Imperial University, and is situated 7.5 km. westward from the crater, the amplitude of the explosive earthquakes responsible to the first crater was gradually increasing from the beginning of December, 1932 and culminated 0.3 microns at maximum on about the 30th of the same month. It must be noted that the maximum amplitude was reached after the explosion intensity attained its maximum on December 17.

As regards the activity of the second crater, the amplitude of the explosive earthquakes increased rapidly on February 24, and the next day it attained a maximum of more than 70 microns, but again decreased abruptly. The time of the maximum intensity of the eruption and that of the maximum amplitude of earthquake thus coincided exactly in the

present case.

By the above mentioned eruptions of the first and the second craters, the scoriaceous ash, or "yona" fell on an extensive area even at a distance of 100 km. northwards from the crater. The large blocks of scoriaceous lava was spread around the crater and reached a distance of 1.2 km.

According to Mr. Kawano of the Tohoku Imperial University, the ejecta including lava blocks, scoria, lapilli, ash, etc., is basaltic andesite containing about 52% of SiO_2 .

On April 6, the second crater exploded.

1933. On May 1-2, explosions in the second crater.

On May 3, an ash explosion in the first crater.

On May 3-5, the eruptive centre removed to the second crater, and the outburst was intermittent. In the night of the 5th, the ground shook strongly.

From the 6th, the paroxysmal explosions in both craters continued to the end of the month, and by each paroxysm, dark cloud with electric lightning and red hot scoriaceous lava were thrown up sometimes 250 m. high above the crater rim.

On May 18, 7.00 p. m., outbursts, with strong detonation and red hot scoria hurled out occurred in both craters, the first and the second.

On August 8, explosive intensity of the first crater increased towards the middle of the month, since then, again abated gradually.

On August 26, the activity of outburst was renewed; the smoke often attained a height of 1.3 km.

In August the second crater was quiet while the fourth crater was replaced with water, white fume rising from the centre of its surface as high as about 100-150 m.

On September 8, the small lake in the fourth crater became remarkably

shallow.

In September, explosions occurred in the first crater on the days: 2, 3, 5, 9, 24, 25 and 28, of which that of the 24th was big.

On September 24, 7.00 p. m., a paroxysmal explosion with 2-3 hours' period and followed by strong showers of red hot scoria and sands.

Kirisima Zone

(k) Kutinoerabu

This island volcano belongs to the Kirisima Zone and is situated in SSW of Satanomisaki, the southernmost cape of the island of Kyusyu, and 12 km. west of Yaku-sima island. It is about 12 km. long in NWW direction and 5 km. across. The volcano has two peaks, Hurudake, the highest, is 649 m. a.s.l. and the other Sindake, 640 m. a.s.l. Sindake, or the new peak, has many solfataras in its crater, sulphur mining having been operated there.

The recent eruptive scene is the crater of Sindake, which lies at $130^\circ 138' \text{ E}$ and $30^\circ 27' \text{ N}$.

Among the records on the past eruptions, those of 1841 are to be regarded as authentic.

1841. On May 23, an outburst.

In August, a big explosion occurred and enormous quantity of ejectamenta was thrown out, thus devastating the villages at the western foot of the volcano, such as Motomura, Mukaehama, etc.

It is said that about 28 years ago roarings and tremblings were felt by the islanders.

1914. On January 5, just one week before the great eruption of Sakurazima, a part of the crater wall of Sindake avalanched, accompanying roarings and smoke emissions.

1931. About March 20 and following one week, roarings and tremblings took place very often.

On April 2, about 7.00 a. m., noon and 3.00 p. m., sulphur miners on the mountain felt violent shocks of the ground with thundering sounds.

After the labourers had left the mountain, strong rumblings were heard at about 3.45 p. m. and 6.48 p. m., and finally 7.44 p. m., a disastrous explosion took place. Dark smoke columns with electric lightnings stood high in the sky, detonations were heard and soon after a heavy shower of ejectamenta including ash and lava block followed. The explosion terminated with this single paroxysm, but four tremors were recorded on the seismogram of the Kagosima meteorological station, 135 km. north of the eruptive scene, on the day of the outburst.

By the explosion of 7.44 p. m., the thunder-like detonations were heard in some islands near Kutinoerabu and even at Makurazaki in the Province of Satuma, 92 km. away from the crater. Ashes spread over the island, especially thick on an elliptical area including the Mukaehama at the north-western foot of the volcano. Vast area of the mountain flank was devastated by the flows of lava blocks of every size.

On May 15, an explosion.

On June 6, 3.30 p. m., another explosion.

On June 22, 7.00 a. m., an outburst began with big detonating sounds, ash rain having soon after followed it. The villages of Mukaehama and Yumukai were covered with ash 1.5 cm. thick.

1932. On July 23, eruptive activity was reported.

1933. Since the middle of December, the temperature of the solfataras in the Sindake crater increased remarkably.

On December 23, in the evening ashes rained slightly in the vicinity. In the night some fishers on board the fishing boats saw fire phe-

nomena on the summit.

On December 24, 2.00 a. m., some people observed a weak fire phenomena above the crater. At 4.10 a. m., a disastrous explosion took place with awful detonating sounds; it continued about 10 minutes. Huge columns of dense smoke rose about 600-700 m. high above the crater, electric lightning illuminating them.

Ejectas were abundantly projected towards SSE; 8 persons became victims. A hamlet called Nanakama, 1.5 km. away from the crater was burnt by fire caused by glowing blocks of lava, while an immense area of forest was completely devastated.

On December 27, 1.00 p. m., an ash explosion.

On December 31, 8.30 p. m., an explosion took place for several minutes, accompanying thundering detonations. Dense cloud of smoke rose on the crater causing the rain of ejectamenta in the vicinity.

1934. On January 11, 4.15 p. m., a strong explosion occurred after roarings. At first it strongly thundered three times, then the cauliflower of dark smoke with electric flashes rose as high as 1 km. above the crater. Ashes fell to the east on the sea and reached Yakusima Island, 15 km. east of the crater.

Two volcanologists, Profs. T. Matumoto and F. Homma, were, just at the moment of the outburst, standing on the eastern flank of the volcano, where they experienced heavy shower of ejectas.

After this outbreak, the explosive activity abated rapidly.

On January 12, 6.00 a. m., ash precipitated in Yakusima and at 1.13 p. m., dark clouds veiled the summit.

According to Prof. F. Homma of the Kyoto Imperial University, the times of outbursts during the last explosive period coincided with those of high tide in the locality. Further,

the explosions took place almost always one or two days after it had heavily rained on the mountain.

Considering that the ejectamenta including ash, sand and lapilli are all pre-existing materials, the outbursts of the recent period of eruptive activity of this volcano may be regarded as belonging to the ultra-volcanian type.

(1) Subsidence of the bottom of Kagosima Bay (Ahira Caldera) in Kyusyu

1931. In the month of June, it was reported that a part near the village of Sirahama, on the northern coast of Sakurazima, the sea bottom subsided remarkably.

The depressed part lies about 20 metres off the coast in the time of the high tide and 4 metres in the ebb time. The area is somewhat circular with 36 m. diameter, and now it is 6 metres deep below the low tide level; the subsidence amountd to about 4 metres. It lies in the submarine part of the piano of Sakurazima volcano, which is the central cone of the caldera of Ahira (this name is proposed by Prof. T. Matumoto for the circular depression of the northern end of Kagosima Bay), and is situated in the subsided region due to the great eruption of Sakurazima in 1914; so the depression phenomenon seems to be of volcanic origin.

(m) Subsidence of the bottom of Toya lake in Hokkaido

1932. On May 19, in the morning, a part near Muko-Toya village and off the northern coast of Toya lake about 40 metres from the shore, the water was bubbling. According to the result of sounding, an elliptic area 100 metres long from east to west and 80 metres wide subsided as much as about 11 metres, and it is 13 metres deep at present.

At the end of May, the water temperature was 11°.3 C in the subsided part while it was 5°.5-7°.3 C in other parts of the lake, the normal temperature of the lake water in the month of May being 5°.0 C or thereabout. Lake Toya is situated in the caldera of the same name, its central part and southern rim having been the scenes of volcanic activity since the caldera formation. The islands in the central part of the lake are volcanic domes of the post-caldera time. Volcano Usu on the southern rim of the lake basin is now active; its eruption in the year 1910 is very well known by volcanologists. The present depression phenomenon of the ground, therefore, seems to be of volcanic origin.

Concluding remarks

The volcanic activities so far mentioned may be grouped into the types as follows:

1) Ultra-volcanian type of eruptive explosions. This type has been manifested in recent years by many volcanoes as, for instance, Kusatu-Sirane-San, Akita-Komagadake, Kutinoerabu, etc.

Among these outbursts, that of Akita-Komagadake is notable, though the explosion was of minor strength. This volcano had been dormant since untold ages up to the recent outburst, which occurred suddenly on the bottom of its large caldera without any premonitory sign. The scene of the explosion has been covered with thick forest, and the outburst occurred in linear fissures.

The minor outbursts such as those of Mihara-Yama, Hakone, etc., seem apparently to belong to the present type, and they are merely simple superficial phenomena having no connection with the inner mass.

2) Volcanian type of eruption. Many minor explosive paroxysms of Asama-Yama belong to the Volcani-

an type, the ejectamenta including lava blocks, lapilli, ashes, etc., being derived from both origins the secondary and the primary. Some strong eruptions of the volcano seem to belong to the Strombolian type, projectiles in this case being regarded to be of primary origin.

The explosions of the volcanoes of Tarumai and Yakedake are for the most part of Volcanian type. Each volcano has a lava plug in its crater, while the explosions occur in the fissures which run across it and from which lava fragments are thrown out. But in some violent outbursts the ejectamenta seem to be of juvenile character.

The eruptions of the island volcano Harumukotan in the Kuriles possibly belong to the present type.

3) Strombolian type of eruption. Volcano Aso in Kyushu manifests this type of eruption, red hot scoriaeous lapilli, sands and ash being ejected from the crater in each eruptive paroxysm.

The new volcanic islet near Alaid seems to be built up by dark scoria, products of the eruption of the present type. The eruption of the island volcano Uraccas in Marianas in recent years is said also to be of the same type.

4) The depression phenomena of a part of the bottom in the calderas of Tōya in Hokkaido as well as of Ahira in Kyushu are most remarkable. It may possibly be that the subsidence process in the course of caldera formation is not yet terminated in those places.

Botany

A Contribution to the Knowledge of Regeneration in Higher Plants

By Kinzirō Kakesita

The author has induced the regeneration in *Bryophyllum calycinum* and *B. crenatum* even in the leaves attached to the stems, which consists in the formation of new roots and shoots in the notches. The methods were the warm-bath treatment, and the confinement which H₂ or N₂-gas for a certain time. According to the author's view, such treatment will induce the anaerobic respiration, and its products act as stimulants for the regeneration. In fact the author could induce this process by the injection into stems and leaves of certain products of anaerobic respiration, especially acetaldehyde and ethyl alcohol. Further, the author could ascertain the accumulation or formation of acetaldehyde, alcohol and organic acids in the attached leaves subjected to the above treatments.

Botanical discoveries on the Citrus flora of China

By Tyōzaburō Tanaka

The paper is concerned with the description of the results of studies by Western and Japanese authors, incl. those of the author himself. The introduction of various Chinese Citrus forms into Europe as well as Japan is described. As to the Citrus flora of China the author's general conclusion is: in the southernmost region of the Chinese coast citrons, lemons, sweet oranges, shaddock, and large-fruited mandarins are predominating. Towards the north the lemons disappear, and large-fruited loose skin oranges as Ponkan and Tankan take the lead. Still towards the north the citrons disappear and small-fruited mandarins become important. In the northernmost region only hardly species like *Citrus junos* and small-fruited mandarins exist while others disappear.

Plants susceptible to dwarf disease of rice-plant

By Teikichi Fukushi

It is well known that certain virus diseases are transmitted by the agency of some leafhoppers. The author tried to study experimentally the transmission of dwarf disease of rice by the agency of the leafhopper, *Nephotettix apicalis* var. *cincticeps*. It was found that *Panicum miliaceum*, *Echinochloa crus-galli* Beauv. subsp. *colona* var. *edulis* Honda, *Alopecurus fulvus* and *Poa pratensis* are subject to the attack of the virus of the rice-plant. But corn, Italian millet, barely and Sorghum gave negative results, so far as the author's experiments have shown. These plants are inappropriate as food of the leafhoppers, for the latter could live on them simply for 15 days to die sooner or later.

Studies on the influence of ultra-violet rays on the physiological activities of *Azotobacter* I.

On the lethal action

By Arai Itano and Akira Matuura

The authors have studied the influence of ultra-violet rays on *Azotobacter chroococcum* by using the mercury lamp of Hanovia. The variation of the intensity of ultra-violet ray during the experiment was so, that the discolouration of acetone methylene blue was 3.0-2.5 after one hour, and by the molybdic acid method aH (activated hydrogen) was 2.1-1.6 after 10 min. Though the intensity of ultra-violet rays is

variable according to the distance between the light source and the object of which the influence of rays is to be studied, yet in the authors' experiment the difference of the intensity in different distances was not very great. The plate culture of *Azotobacter* in Petri dish of hard glass does not die after 2 hours; that in "Acme" ultraviolet glass for 1 hour grows very weakly and dies after 2 hours, while that with no cover dies after 30 seconds. The liquid media culture in quartz test-tube dies after somewhat more than 5 minutes, the number of bacteria being greatest after 5 seconds, even greater than in the control. In liquid media culture in ordinary Erlenmeyer's flask of hard glass we see the decrease of the individual number, the quantity of fixed nitrogen as well as of pH, but not the death. Both in plate and pure culture the exposition of bacteria to ultra-violet ray for a short moment stimulates their activity.

Matsudake of Japan and America

By Kogo Togashi

The study of an American mushroom which the Japanese living in the Pacific border, Oregon and Washington use to identify with the famous Japanese Matsudake (*Armillaria Matsutake*) revealed the fact that it is really *Armillaria ponderosa* (Peck. Sacc., Syn. *A. arenicola* Murrill, *A. magnavellaris* Murrill). Both are very similar to each other, but in the American species the cap is much paler in colour and the development of scales less significant than in the Japanese one.

Geology and Geography

On the Use of Standard Glass Powders in Refractive Index Determinations

By Teiroku Sueno

The author proposes the use of standard glass powders in refractive index determinations with the microscope. By this method the refractive index and the dispersion of the immersion liquid can be determined simultaneously with those of the crystal mounted on the microscope stage, without the Abbe refractometer. The method of preparing the standard glass is also described in detail.

The Stratigraphy and Structure of the District Northeast of Heijō, Korea

By Susumu Matsushita

The district northeast of Heijō is composed of the gneiss system, Shōgen system (Proterozoic), and Chōsen system (Cambrian and Ordovician). The gneiss is intrusive into the Shōgen system (lower, mica schist; upper, limestone and dolomite), which is overlain unconformably by the Chōsen system (lower, phyllite; upper, limestone and dolomite). The Shōgen and Chōsen systems, which generally dip northeast, are believed to have suffered overturned folding. The age of the folding may be supposed to be late(?) Trias, because the Chōsen system, on which the Heian system (Anthracolithic and Trias) rests unconformably, is covered unconformably with the lower Daidō formation (Lias). There are two low-angle thrusts, dipping NW or N,

and affecting all the formations above stated. The thrusting is believed to be due to the late Jurassic disturbance. The high-angle faults (chiefly normal), which formed later than the thrusts, run in three directions: E-W, NNE, and NNW, those in the NNW direction being important. Since dykes of quartz porphyry intruded along the NNW fault line at the end of the Cretaceous, the age of the main faultings is concluded as being late Cretaceous.

Shore Profile of the Pacific Coast of NE Japan

By Sadao Yamaguti

From the numerous shore profiles represented along the Pacific coast of northeastern Japan we can read the crustal movements that have affected these regions.

It was not only once that the land rose and sank. The depth of submergence of this region, that is, of an ancient mouth, was measured from a point in reference to which the profile of the bay bottom changes its angle of inclination. Besides polycyclic crustal movements there were differential movements. While one region had upheaved in a straight line by mere tilting, another had deformed in a series of elevations and depressions, resulting in a wavy surface, at the junction of which two forms of crustal movements or the existence of a flexure axis may be inferred.

In this paper, the coastal profiles of the northern half of the Kitakami district and the sea bottom profiles, or their differentiated curves, alone are given.

Engineering

The Process of Creep of Metals

By Atumaro Simizu

By combining a mechanical lever or mechano-optical device with a rotating drum, more minute time-elongation curves for steel and aluminium were obtained with a magnification of deformation of 100 or 180 times. Summarising the results, the author holds that creep is not a mere plastic flow of metal, as generally expressed, nor is it a mere repetition of sudden yielding, depending only on the temperature; but an alternate repetition of two kinds of deformation.

On the Bottom Structure of Steel Ships

By Teruo Ono

The paper consists of two parts: 1. Standard for the strength of floor girders. 2. Spacing of transverse strength bulkheads or of compound floor girders. The conclusions is.

1. The modulus of resistance of the floor girder, either of signal bottom or double bottoms at the centre line of a ship ought not to be less than that of a freely supported straight beam of constant cross section, and of a length equal to the moulded breadth of the ship, carrying uniform load corresponding to a head of water equal to the light draught of the ships.

2. The spacing of transverse strength bulkheads or compound floor girders should be decided on the bases of the strength of floor girders, longitudinal bottom girders and number of longitudinal bottom girders, and further in cases where skeleton floors are fitted, the spac-

ing of solid floors should be taken into account.

3. In cases where bilge bracket is dispensed with in single bottom, great care must be taken with regard to construction of the floor girder as a whole.

A Study of Wave Formation and Water Flow Contiguous to the Bottom Surface of Seaplane Floats

By Tetsuo Miki

Two pairs of seaplane floats were tested in an experiment tank, and plan view of the bow waves photographed. As the actual flow lines were obtained by towing the models while the coat of white paint on the bottom surface of the floats was still wet, the streak traces were shown quite clearly. The water lines during gliding could be ascertained. The hydrodynamic lift was deduced by subtracting the computed hydrostatic buoyancy from the total force acting upward.

Water at the bow rises along the bottom surface forward to the head of the float and is then thrown sideways. The bow sheet forms the undesirable dirtiness, which often accounts for damaged propellers. The whole sheet around the floats takes the form of butterfly wings, the roots of which are the crests of the bow wave.

Discontinuity, if any, in the resistance curve appears to be the difference between water resistance and air resistance at the back of the step. As to the symmetry and form of the flow lines at the bottom, little difference was found between the single float and the twin float arrangement.

The Effect of Temperature on Strength of Wood

By Tuneo Inokuty

Impact bending tests were carried out on specimens of spruce and plywood between the range of temperatures from $+60^{\circ}\text{C}$. to -60°C . Results show that in both spruce and plywood the mechanical properties change with variation of temperatures. Thus the absorbed energy shows a minimum between 0°C . and -10°C ., and the equivalent modulus of rupture increases almost linearly with decrease in temperature. Moreover prolonged cooling produced no difference in the results as compared with those cooled for a short time. It was also observed that test pieces which were first cooled and then restored to normal temperature regained their original properties.

A Design Formula for Ailerons

By Taichiro Ogawa

In the design of control surfaces of an aeroplane there is an element of risk in that the designer has only his own experience and the judgement of test-pilots to rely on. In this paper, the constant initial angular acceleration is calculated for an aeroplane flying with minimum velocity, and rolling soon after the aileron has been suddenly actuated. The conclusion is that control surfaces should be so designed that the angular acceleration shall be greater than the mean value of the angular acceleration for that class in which the aeroplane belongs.

Precautions against Thunder-Storm Disturbances in Electric Power Transmission Systems

By Kurakichi Takasawa

The Tokyo Electric Light Co. and

a number of other companies that supply electricity in the districts of Tokyo and Yokohama decided to take precautions against disturbances caused by lightning in electric power transmission systems, by arranging with the Central Meteorological Observatory to receive due warnings of approaching thunderstorms.

This plan came into operation in 1929. In an area of about 75,000 square kilometres with Tokyo City as centre, 233 stations for observing thunderstorms were selected from line-men's quarters of transmission lines, generating stations, and substations, as Thunder-Storm Stations. Operators in these stations, besides their routine work, were assigned to observe thunderclouds and thunder-storm in compliance with the thunder-storm code provided by the Central Meteorological Observatory and to report to the Observatory, who would issue warnings of thunderstorms, and their intensity and direction of travel to enable provisions being made for emergencies.

In case of need, the transmission systems were to be divided into as many small units as possible, so that the extent of damage and the range of disturbance caused by lightning strokes could be reduced. In this way, remarkable improvement in electric service was effected by carrying out appropriate emergency measures beforehand.

The paper describes the characteristics of thunderstorms, gives statistics of accidents caused by lightning strokes on the six principal transmission systems of 110 kv. and 154 kv.

The Electrical Companies, by inaugurating this system of thunderstorm forecasting, have not only derived great benefit from it, but have also helped to clarify the gen-

eral local characteristics of thunderstorm generation and their course of travel.

On the Vapour Pressure of a Mercury Lamp

By Tsunesaburo Asada

Measurements made of the vapour pressure of mercury in a vacuum quartz mercury lamp while it was burning, showed that the vapour pressure was proportional to the terminal voltage, so long as the latter was kept above 60 volts, independently of current density.

A record taken with an oscillograph when the external resistance was suddenly changed, keeping the vapour pressure constant by immersing the lamp in water, showed constancy in terminal voltage, as though some current variation was found.

When, however, the same procedure was repeated with the lamp placed in air, the oscillographic record obtained showed gradual increase in voltage and gradual decrease in current with time, owing to the high temperature and consequent increase in the vapour pressure of the lamp.

On the Calculation of Total Radiation Resistance in a Short-Wave Directive Antenna

By Hikotarō Takeuchi

Total radiation resistance in a directive antenna is found by calculating the Poynting flux radiated from the antenna, while the radiated power due to mutual action of projector and reflector is also obtained by the same method. Using the value of the total radiation resistance thus obtained, the gains of a directive antenna in both front and rear directions are considered, and it is shown by graphs how the gains in each direction vary with the magnitudes of, and the phase between,

the currents in the projector and reflector.

Experimental Study of Rock Drills

By Tomiji Suzuki

Upon comparing hand drilling with machine drilling, the writer found by the results obtained at the Hidachi Mine that the former method is superior to the latter, only in the case of soft rock. Judging from the general nature of rocks, he advances the opinion that drilling speed can be ascertained by the "rigidity test" and the amount of explosive required by the "Crater test", as devised by the writer, is made as follows:—a small hole 8 mm. diameter and 30 mm. deep is cut through vertically at the centre of a specimen of the rock into which a steel bar is inserted. A weight is then dropped on this bar. The height necessary for the falling weight to form a crater in the bottom of the specimen is measured. According to his experiment, the result of this test has a definite relation to the amount of explosive that will be required in actual practice.

The writer has examined the character and structure of 67 kinds of rock drills made both in Japan and abroad and estimated their comparative merits.

After laborious tests with various rock drills, he obtained the following results—The "feed clearance," i. e., the distance between the head of the piston of the Paynter's rock drill tester and the end of the bit is closely related to the length of the shank; it is also intimately connected with the stroke of the piston hammer and general drilling efficiency. The writer also found that although some of the drills display full efficiency when the feed stroke is zero, most of them require a cer-

tain feed clearance, i. e., a feed clearance of 4-18 mm. for a heavy drifter and one of 2-10 mm. for a light drifter; and that whatever the working pressure, the bit must be of the same weight as that of the hammer of the drill. The depth of the uneven surface of the bottom of the bore hole was also measured and the length of feed clearance required for it determined.

Experiments were made with drilling speeds to find the relation between the shape of the bit, the number of revolutions of the bit, the number of blows and drilling speed, rotation torque, etc. The author studied also the question of the oil in connection with the Paynter rock drill tester and offers suggestions as to its proper use.

Lastly he measured the strengths of the blows, the number of blows, output horse-power, drilling speed, the number of revolutions, air consumption, air indicated horse-power, compressor horse-power, efficiency by tester, distance drilled per air indicated horse-power, air used per 10 cm. of rock drilled, thermal efficiency, distance drilled per compressor horse-power, etc., in connection with 23 kinds of heavy drifters, 34 kinds of light drifters, and 10 kinds of stopers and summarized the results.

As to the relation between air pressure and strength of blow, number of blows, indicated horse-power, drilling speed, and air consumption, he finds them to agree on the whole with Seamon's conclusions.

In conclusion he suggests certain necessary conditions that should be fulfilled by a good drill from the maker's point of view.

On the Auxiliary Diesel Electric Propulsion of a Large Fishing Boat

By Ritsuichi Kokubo

The Government of Formosa has

completed at Mitsubishi Dock Yard, a large fishing boat, equipped with two direct-reversible four-cycle Diesel engines, each developing 340 b.h.p. at 275 r.p.m. for main propulsion.

She is accommodated with many up-to-date fishing and propelling appliances, among which the most remarkable is the auxiliary Diesel electric propulsion. In case of tunny fishing with the line-hauler, it is most desirable to propel the boat at a very slow speed, nearly that of the winding of the line-hauler. Such a small number of propeller revolutions of as 11 r. p. m. is easily obtained by Diesel propulsion.

Another great advantage or convenience is that the captain himself can manoeuvre the engine by remote control from the bridge, while he is at the same time inspecting the condition of the line, whether slack or tight, the most important part of his special fishing practice.

The electric propulsion is the Leonard system, in which the electric power is supplied from the auxiliary Diesel generator of variable voltage type to the variable speed 75 B.H.P. d. c. motor, which is connected to the shaft through reduction gears and a clutch. Two clutches are provided for one propeller shaft, one of which is engaged to the main engine and the other to the auxiliary propelling motor through reduction gearing. To avoid mishandling, when one of the clutches is engaged, another is disengaged by the same operating handle.

Model Experiments with the Special Sectional Form of a Submarine Hull under External Pressure

By Ariki Katayama

The results of model experiments

with a special sectional form of submarine hull under external pressure, as well as with the ordinary circular form are described.

The conclusions are: (1) The deflection of the special form is greater than that of the circular. (2) The buckling pressure of the shell plate of the special form is somewhat lowered by the excess compressive stress due to bending. (3) The position where the excess compressive stress occurs may be found by means of strength calculations. (4) If the special sectional form is to be adopted, it is recommended that the length of that special sectional part shall be kept as short as possible and, if practicable, the main bulkheads should be placed in such a position as will stiffen that part.

Fluctuations in the Light and Temperature of Vacuum Lamp Filaments due to Voltage Fluctuation

By Shigeo Suzuki

The author first deals with fluctuations in the light and in the temperature of a vacuum incandescent lamp when a periodic voltage is applied to the filament of the lamp in both stable and transient states. Secondly he discusses the temperature fluctuation of the same when the wave of the square of the applied voltage is in audible frequencies, giving an example of the application of this fluctuation to photophony. Lastly he describes the relation between the filament constants, as well as the amplitudes of the fluctuations of both temperature and light.

In an Appendix, the author describes also some examples of the wave form of temperature fluctuation of the filament in its stable state.

A Method for Automatic Telephone Exchange

By Takao Sajima

In the Strowger system, now in use, both the line finder and the selector must be provided with several relays, proper to each switch, in order to accomplish their functions, most of these relays being idle while the talking circuit is engaged. The author has devised a system of reducing a large number of relays and other devices, such as spark preventers, in the whole system by using a group of relays that are associated in a common control device instead of in many idle relays as in the Strowger system. Most of the parts of the mechanical system of the line finder and the selector are similar to those of the Strowger type switch, but a cam spring which is actuated as soon as the wiper shaft of the switch changes its motion from vertical steps to rotary, is provided for each switch to be ready for making the releasing circuit of each switch when the talking circuit is opened. Another feature of the system is that, for simplifying cabling between line finder and selector, the positive and negative lines are utilized for controlling the hunting motion of the line finder.

A New Mechanism for a Japanese Printing Telegraph Transmitter

By Kanji Shiraki

The author has devised a new mechanism in which the double current system is applied to the transmitter. Pushing a key-button turns the transmission distributor, selecting the corresponding mark, and directly dispatching six unit codes through the line. In this new device, in place of the old contact lever, are spacing contacts above the ton-

gue and marking contacts under it. The tongue is attached to the operating lever. Although its right part can move upwards, its left part is interrupted in its upward movement by a pin affixed to the operating lever. When the operating lever is pressed by the locking lever, the tongue touches the spacing contact by means of a spring on the right part of it, but when it is released, the tongue touches the marking contact. The transmission distributor, which consists of eight segments and a common ring, is installed on the main axis on which the contact cam was installed in the older type. When the printing is done, the brush comes upon a segment of the stop of the transmission distributor. By means of a projection attached to the main axis, the last-named stops its sliding motion after all the tongues on the spacing contact.

Measurement of the Height of the Kennelly-Heaviside Layer in Japan

By Tsutomu Minohara and Yoji Ito

It is well known that the height of the Kennelly-Heaviside layer varies according to time and place, in consequence of which, data obtained in Europe or in America might be of slight value in estimating the height in Japan. With this in view, the authors undertook to measure the height of the K-H layer. The method employed was that of Appleton, i.e., the frequency-change method, which was the one most adapted for our laboratory.

Upon measuring the height of the Kennelly-Heaviside layer by the frequency-change method for the Tokyo-to-Hirataka transmission (distance 49 km.), the apparent height of the layer was found to

range from 80 to 200 km.; being nearly 95 km. in the day-time and about 190 km. at night. But these results were obtained when the condition of the layer was comparatively steady. In the case of unstable conditions, there was abrupt change of height. But even with this considerable fluctuation, the height still remains within the range from about 80 km. to 200 km. It was observed both in the day-time and at night that a space-wave that has travelled more than two paths can reach the receiving station, as is clearly inferred from the existence of higher harmonics. The calculated values of the apparent height of the layer from the higher harmonics recorded in oscillograms are nearly all 150 km. in the day-time; and about 400 km. at night, when the condition of the layer is stable. It is difficult, however, to discuss from this experiment alone, whether this phenomenon is due to multi-reflection or to multi-refraction of the wave, or some other cause.

Infra-Red Communication by Means of Radiation Thermocouple

By Saburo Numakura and Hachiro Kojima

The light waves from a 50 watt automobile headlight lamp were transformed into parallel rays by lenses, and means of a Wratten filter No. 87, only those rays whose wave lengths were greater than 75 μ were transmitted. In the authors' experiments, the power consumption of the lamp was lowered to 3 watts, the infra-red rays falling on a tellurium-bismuth vacuum radiation thermocouple placed 5 metres away from the lamp.

The rays were interrupted either by a shutter or by hand, and after amplifying the intermittent thermo-

electromotive force induced in the thermocouple by means of a three stage vacuum tube direct current amplifier, the circuit of a 1000 cycle oscillator was made and broken by a specially designed electromagnetic relay, placed in the anode circuit of the last stage, the signals being detected with a telephone connected to the oscillator in series.

The relay consisted of a permanent magnet moving coil type pointer galvanometer and an auxiliary pointer moving freely on another axis. Each free end of these pointers has a contact point which is connected to the 1000 cycle oscillator in series, while, on another side of the auxiliary free pointer, is fixed a damping vane to make its motion dead beat.

Since the free pointer is surrounded by a small loop fixed to the free end of the galvanometer pointer, the distance between these contacts is always kept so small that the make and break is made instantaneously.

The difference in the anode currents of the last stage when the ray fell and when they were cut off was about 2 mA, while the displacement of the pointer was about 3 cm. A change of about $50\mu A$ in the anode currents was sufficient to operate the relay, so that several signals could be transmitted in one second.

On the Electrodes Used in Measuring Breakdown Voltages of Impregnated Papers

By Hideo Numakura and Shōzo Yoshida

The authors devised a process for preventing the brush discharges that occur at the edges of the electrodes when measuring the breakdown voltages of impregnating papers in layers.

As upper and bottom electrodes,

solid cylinders of brass 40 mm. in diameter by 40 mm. high, were used, the edges of which were rounded with a radius of curvature of 10 mm.

Bakelite varnish was applied to and baked repeatedly on the rounded edges, by which means the field strength of the edges is greatly relaxed.

By using these electrodes an almost linear relation between the breakdown voltage and the number of layers is obtained, whilst in the case of electrodes without any bakelite varnish, the breakdown voltage per layer becomes lower as the number of layers is increased.

In both cases, the breakdown test was carried out in the same compound as that used for paper impregnation.

Many experimental curves are shown.

On the Result of a Propeller-Fan Test

By Noboru Inomata

In August, 1931, a propeller fan was erected on the surface of coal mine for the Navy, near Fukuoka.

The new fan was fitted with some discarded navy air-craft propellers, arranged tandem to the fan-shaft.

The results of the tests may be summarized as follows:

(1) A constant relation exists between the diameter of the fan and the mine resistance in obtaining maximum mechanical efficiency; the best results being obtained when the ratio is about 2:1.

(2) Within a certain range, the number of revolutions has little influence on the mechanical efficiency, although when it is too small, say 1 or 2 propellers, we find a drop in mechanical efficiency especially at low revolution.

(3) Volumetric efficiency increase

proportionally with equivalent orifice increase. The maximum mechanical efficiency is obtained, however, when it reaches 73%.

As for the air flow through the fan and evasee, four in efficient currents were observed, which could be greatly reduced with the aid of guide vanes and suitable contrivances.

With respect to these currents, the

most interesting phenomenon is the air vortex induced by propeller rotation just before entering the first propeller, since it is closely connected with the equivalent orifice of the air passage.

This air vortex will be eliminated when the best ratio of the fan diameter to the equivalent orifice is attained.

Radio Research

On the Characteristics of Interference Surfaces of Electromagnetic

By Hideyuki Kikuchi

(1) A Group of Interference Surfaces of Electromagnetic Waves caused by the Presence of a Prolate Spheroid.

Let us assume prolate spheroid situated on the z-axis of an electromagnetic wave field that is propagating in the x direction, and polarized on the z-axis. The waves reradiated by this prolate spheroid are a train of confocal elliptic waves, polarized on the z-axis. Then the interference wave fields of maximum intensity by these two train of waves, one the reradiated elliptic waves and the other the coming plane waves, are a group of interference parabolic surfaces which deviate from ordinary parabolas.

(2) A Group of Interference Surfaces of Electromagnetic Waves caused by the Presence of a Kikuchi Electric Wave Lens.

A group of interference surfaces of electromagnetic waves caused by the presence of a Kikuchi electric wave lens is a group of enveloped surfaces consisting of many groups of interference surfaces caused by the presence of each prolate spheroidal element.

A New "Returning Type" Rotating Radio-Beacon

By Minoru Okada

(Electrotechnical Laboratory, Ministry of Communications Tokyo)

This paper describes experiments with a new type of rotating radio-beacon, having certain advantageous features that may be regarded as improvements on the one that is being used in England since many years past.

In our new system, the so-called figure-of-eight field pattern is made to rotate cyclically, turning back after each half revolution, thus enabling the bearing to be determined by observing the times of disappearance of the signal twice in one cycle. Moreover, instead of sending the signal wave continuously, we transmit 90 dots during the time that the direction of the minimum field intensity rotates 180° , i.e., 1 dot per 2° , so that instead of measuring the time, we can find the correct bearing at once by counting the number of dots from the "North-" or the "South-Signal" to the instant of disappearance of the signal.

Tests made with an experimental installation of our new system of beacons, constructed and set up at the Hiraiso Branch of the Electro-

technical Laboratory, Ministry of Communications, which works on 315 kc. modulated at 1,000 cycles, gave very satisfactory results as will presently be shown.

Some Studies on Thunderstorms

By Hisashi Noto

(Military Scientific Research Institute, Tokyo)

In Part I of the present paper, in which the change in the electric field during the passage of thunderstorms was investigated, it was shown that the changes in the steady field were so complex that no determination of the polarity could clearly be made. In Part II, in which the relation between the direction of travel of a thunderstorm and that of wind at various heights in the atmosphere was investigated, it was found that a thunderstorm is generally dragged down by winds existing at heights of 2,000 metres and higher above the ground. In Part III, the structure of thunderclouds is investigated. The inner structure of clouds is very complex, of irregular forms, consisting of many masses of clouds separated from one another by thin clouds. From observations of lightning flashes it was concluded that the conductivity of a dense cloud is greater than that of dry air in the laboratory. From laboratory results, it is estimated that about 3,000 m. above the ground the effect of barometric pressure on lightning discharges decreases 30%. The space charge density and the voltage of a cloud element due to the charge on it were calculated by assuming a certain intensity for the field directly under thunderclouds, as the volume charge is believed to be intimately related to the propagation of lightning flashes. In Part IV,

the amounts of various impurities contained in rainwater and in snow are investigated, the conclusion from which is that the amount of charge separated when a large drop breaks to pieces must diminish by 50%, in which case the "breaking drop" theory may be affected to some extent. Statistics of impurities contained in rainwater from 4 places in Japan for a period of six years are included in this paper.

Ionospheric Measurements at Losap Island During the Solar Eclipse of February 14, 1934

By Kenichi Maeda

(Electrotechnical Laboratory, Ministry of Communications, Tokyo)

The author describes and discusses the results of the measurements of apparent heights of the ionosphere by the pulse method carried out at Losap Island, one of the East Caroline Islands, during the solar eclipse of Feb. 14, 1934. It is found that the ultra-violet radiation from the sun is the prominent agent of the atmospheric ionization, and the effect of the neutral corpuscle from the sun is slightly observed and ends earlier on the F-layer than on the E-layer.

The results of the measurements of electron densities in the ionosphere and the noise level in the vicinity of Losap Island are also described briefly.

As an appendix the principal results of the ionospheric measurements in North America and Europe during the solar eclipse of Aug. 31, 1932, are tabulated and compared with the results of our experiments.

Ionosphere Heights Measured in the South Sea Islands and Radio Observations Made During the Solar Eclipse of February 14, 1934

By Tsutomu Minohara and Yōji Itō

(Naval Technical Research-Department, Tokyo)

Radio observations of the heights of the layers of the ionosphere were made by means of the pulse method at Losap Island in the South Seas during the period from February 1 to 17, 1934, especially on the day of the solar eclipse, February 14. On several days critical frequency measurements were also made.

We found considerable differences in the mode of wave propagation in the South Seas as compared with that in the Tokyo district and, as might be expected, the heights of the E-layer were somewhat lower in the South Seas than in Tokyo. The results obtained from critical frequency measurements enabled us to determine the existence of the echo region and the absorption region in the range of the middle and the short wave. In the course of our measurements, we came upon a special absorption phenomenon, which we have called the "noon phenomenon." The value of the ion density of the E-layer underwent marked changes with the progress of the eclipse. The states of the F-layer also changed and there was also anomalous rise in the layer heights. The effect of the neutral corpuscles on the ionosphere could not be observed as the frequencies employed were not quite suitable for observing the state of the E-layer at the calculated time of the corpuscular eclipse. Observationally, it did not affect the F-layer, the frequency having been merely for the observation of the F-layer.

A New System of Simultaneous Grid and Plate Modulation

By Tatuō Hayasi

(Department of Physics, Faculty of Science, Osaka Imperial University, Osaka)

In the conventional constant voltage modulation the grid of the amplifier tube is maintained at a negative potential by means of a bias battery or by a high resistance leak. The present method, however, makes use of the plate-cathode voltage drop of the modulator tube as the grid bias of the amplifier tube, resulting in grid modulation in addition to the normal plate modulation. This alternative circuit can easily be obtained by merely connecting the amplifier grid directly to the modulator cathode. After detailed explanations of the principle of this system, the results of practical experiments that were carried out on 7,100 kc. are described. So far as the degree of modulation is concerned this system gives very promising results. As there is almost no phase difference between grid modulation and plate modulation, distortion is not serious. The frequency characteristic moreover is better than in the Heising modulation system. Generally speaking, this new simultaneous modulation system seems to surpass both the conventional constant current and the constant voltage modulation systems.

On a New System of Receiving Set for Carrier Telegraphy

By Yasuji Watanabe, Zen-ichi Kamayachi and Kinshichi Kikuchi
(Tohoku Imperial University, Sendai).

This paper describes a new system of receiving set for carrier tele-

graphy. It consists of filters, selective amplifiers, and detectors. A new circuit of an ampli-filter of resonance current type is proposed here instead of the voltage type, while for amplifier a newly devised stabilized selective amplifier is used, the good points of which are constancy of amplification value as well as a high degree of selectivity.

For experimental verification of the foregoing, experiments were made with three channels of carrier frequency within audio-frequency range, such as 3,000, 3,300 and 3,360 cycles per second.

Television Transmitting Apparatus (100-Line Television)

By Kenjiro Takayanagi, Takashi Horii, Akira Yamashita and Kiyoshi Yamaguchi (Hamamatsu Higher Technical School, Shizuoka)

An experimental television transmitter is described. This equipment, which was installed at the Hamamatsu Technical College, was used in making practical tests of the system.

A Nipkow disc, with 100 holes arranged in a spiral, is directly coupled

Stage	0	1	2	3	4	5	6	7	8	Modulator
Valves	Photocells	'57	'24	'24	'24	'24	'24	'2A5	'47	203A x 3
									Parallel	

The picture transmitter utilizes a quartz crystal oscillator, driving power amplifier through frequency doublers and buffers. A carrier frequency of 7,200 kc. was used, the output of the power amplifier when measured being about 80-watts at normal operating conditions.

Modulation was made in the push-pull stage using a screen-grid valves (UV-814) preceding the power amplifier. By introducing a modulating

to the three-phase-induction-synchronous motor rotating at 20 revolutions per second. The picture, therefore, is transmitted at the rate of 20 per second, and has 1-to-1 ratio of vertical to horizontal dimensions. A light-spot system of scanning was used. The flash of reflected light is arranged to fall on the spherical photocells of caesium-oxide, vacuum type; three tubes forming a pick-up unit.

The photo-electric signals derived from the cells have to be amplified approximately 10^5 times through an eight-stage capacity-coupled-resistance amplifier. The transmission requirements are that a frequency band extending from 20 cycles to 10^5 cycles shall be equally amplified. To compensate for the loss of higher frequencies, which may arise not only through stray capacities but also through scanning itself, the amplifier has a sufficiently low output resistance, while in some stages inductances are inserted in series with the low output resistances of the amplifier. The frequency characteristic is shown in the figure, the valves used being listed in the following table.

signal in both screen-grid and plate circuit, the modulation characteristic was made practically linear. Owing to the requirement that the transmitter shall be capable of being modulated uniformly by frequencies from 20 cycles to 10^5 cycles, resistance was inserted in the plate circuit instead of modulation reactors. The circuit diagram is shown in the figure.

A Portable B-type Ultra-Short-Wave Telephone Set

Shōemon Ohtaka, Tarō Hasegawa, Kurō Matsuda and Kunio Maita (Yonezawa Higher Technical School)

This B-type circuit is a high frequency circuit devised by S. Ohtaka, one of the writers, in which the grid-side is not connected to the biasing source as usual, but is connected directly to the plate-side through a high resistance.

The writers arranged trial sets, using two UX 12A valves in push-pull. The high frequency circuit is never changed while working as transmitter or as receiver; its plate d.c. voltage alone being changed. It oscillates when raised and detects when lowered.

Using a 5.28 m. wave and about 0.3 watt antenna power, the writers were able to communicate over a distance of nearly 30 km. on land and 20 km. on sea.

The best results were obtained with horizontal antenna for land and with vertical antenna for sea.

On an Ultra-Short-Wave Wavemeter

Hikosaburō Ataka (Meiji College of Technology, Tobata)

In the practical construction of an ultra-short-wave wavemeter for wavelengths less than three metres, there arises the following difficulty: Owing to the deleterious inductance of the lead wires that connect the condenser in the shielded case with the outer coil, the dimension of the coil become too small to measure the shorter wavelengths.

The writer has developed a wavemeter with an auxiliary coil. The principal coil of the tuning circuit of the wavemeter is connected close

to the terminals of the condenser in the shielded case, while an auxiliary coil of relatively large dimensions is placed outside the case. These two systems are connected with lead wires. A resonance indicator of high impedance is inserted between the terminals of the condenser. The auxiliary coil and the lead wires therefore serve merely to introduce the induced e.m.f. into the tuning circuit, which can be constructed to resonate for wavelength less than one metre.

On the Equipments for International Radio Telephone Communication in Japan

By Toyokiti Nakagami (International Wireless Telephone Co. of Japan, Tokyo)

The conditions for selecting the sites of the sending and receiving stations are enumerated, after consideration of which it was finally decided that the sending and receiving stations be situated at Nazaki, Ibaraki prefecture, about 80 km. northeast of Tokyo and at Komuro, Saitama prefecture, about 40 km. north of Tokyo.

Five crystal controlled valve transmitters are installed together with the beam antennas for telephone communications with America, Europe, South Sea Islands, Manchoukuo, and Formosa.

The design, construction and performance of the transmitters and antennas are described in detail.

Five superheterodyne receivers are installed at the Komuro receiving station, whose design, installation, and performance are also described in detail.

The antenna system installed at the receiving stations is also described, together with the performance characteristics.

These stations are connected by cable with the Tokyo Central Telephone Office, where the Vodas equipment is installed for the purpose of connecting four wires to two wires of any subscriber.

The construction and performance of the cable are described.

The result of the field intensity measurements of the stations with which we communicate is also given.

Physics

Crack and Life

By Torahiko Terada

In the domain of physical phenomena there are a number of different classes of morphological changes which may be compared with crack formation in solid body when regarded from the point of view based on the consideration of surface energy distribution, i.e., phenomena connected with colloids, crystallization, etc. From the same point of view, some elementary biological phenomena such as mitosis and cell division may also be regarded as a kind of crack formation and the growth and differentiation of organism seems to be connected with the multiplication of the seats of surface energy. On the other hand, some discontinuous phenomena similar to crack formation seem to be of important significance in different stages of embryonic development. For example, the irregular colour patches on the skin of some domestic animals suggest that their formation may be related with a kind of crack formation in some period of the embryonic growth. This suggestion is supported in some degree by the fact that in an example of cat the coloured area when cut out and put together in juxtaposition, forms a more or less simple, say pear-shaped closed surface and, moreover, that the boundary lines of these patches thus put together show characteristic forms proper to the

cracks produced on a spherical shell exploded by pressure.

Experimental Studies on Colloid Nature of Chinese Black Ink

By Torahiko Terada, Ryuzō Yamamoto and Teru Watanabe

Chinese ink in popular use in Japan from ancient time is obtained by rubbing a piece of dry water-colour called sumi, which is made by a mixture of lampblack with glue, upon the surface of a stone vessel called suzuri, filled with water. Preliminary studies of different colloidal properties of the ink are made. The average diameter of the colloid particles are estimated. Thickness of the film formed by spreading the ink upon water surface is estimated under some assumption and found to be of monomolecular size. Solidification of this liquid film by the action of electrolytes is detected and investigated by the change in form of the perforation produced by touching the film with a needle point tarnished with greasy matter. Solidification is also observed when the film is longitudinally compressed above a critical degree which is also affected by the electrolytes. The change is reversible and the solidified film is again liquefied when it is expanded to its original area. Various forms of perforation may be obtained by touching the film with a wooden tip in which the film producing materials are irregularly distributed.

Piano Touch and Tone Measured through the Application of Recorded Sounds in Talky Film

By Ryūzaburō Taguti and Seiiti Watanabé,

(The Institute of Physical and Chemical Research)

For the past several years, we have been making accurate studies or measurements of various acoustics and phonetics through applied talky films, and publishing the results of these researches in Japanese in Tokyo since 1933. Recently we made studies on the sounds of piano and found out that there are two kinds of wave: they are transient and continuous waves.

The former, in case of piano, is a sound wave produced at the very moment the cord is touched with a hammer as well as the consonant of human sound which does not absolutely contain the vowel sounds, and does not raise any acoustic sense by itself.

We have discovered that, when the continuous wave follows up to this transient wave within 0.3 seconds, the sound of continuous waves makes an altered sound. For instance, of the waves "k" and "a" are arranged according to this law, the sound "ka" can be heard. In this way, we are able to pick up two waves, arrange the sounds artificially, and also rotate the films conversely.

Accordingly, we made a talky film of a famous Japanese ode which was sung into conversely, this was so cleverly and clearly done that no one can notice the film being rotated in a converse way.

It is very interesting to hear the musical film of piano or Japanese samisen when being rotated in

opposite way.

Again, if the wave "y" is painted off from the wave "dya" recorded in sound track, the voice "da" is clearly heard. These techniques are valuable for analyzing all kinds of sound, and we have succeeded in determining the nature of the transient wave to a considerable extent.

In case of piano we have made another experiment aside from the one already cited. In order to record the time of the touch, we stained a line close to sound track by means of a glow lamp. Through the length of this line, a time to 1/1,000 second can be easily measured.

It has been discovered through the help of this line that the sound of piano begins to be produced 1/60 second after the finger touches the key. In the beginning, the transient wave is produced. When a long trailing note follows this transient wave, without the use of the damper, we can identify the piano by the note, or can even point out the name of the makers. In other words, the transient waves have a specific property to enable us to know the materials of which the piano is made. Such specific property manifests itself more clearly when the trailing note of the continuous waves are longer.

In the event of sounds such as cited above, pianists, no matter what a magic power his fingers may have, he cannot produce sounds other than those sounds which the makers of that piano intended to produce.

Again, the hammer of piano, at the moment it strikes the cord, keeps up contact with the cord just for the period the cord makes one cycle with its natural period. At the side to the right of C key in the centre, it keeps up the contact for more than one cycle. For that reason, points on each cord to be struck by a hammer must, of necessity, be placed near the end of the cord according as the pitch

of the sound becomes higher. If the physical meaning of this striking point is taken as a collision between the two, it will apply to matters having a high rate of elastic property. The speed with which the hammer returns from the cord is considerably high. It has become clear that the formula of motion of the hammer is nearly the same as a parabolic equation.

The most important problem for piano is the problem of staccato. When a pianist takes off his fingers after the hammer makes the performance of striking the cord above-mentioned, the damper comes out and stops the motion by holding down the cord. But since the sound-wave of the piano gradually dies out within about 0.3 second the wave form of the sound is different from the wave form which was produced before the damper was set in. Moreover, these two kinds of sound waves are of different sorts. In case the touch runs from 0.1 to 0.3 second the sound waves of these two kinds reach to ears together with a certain energy, so that the waves are heard flat sound. When the touch runs shorter than 0.1 second the greater part of sound wave heard is that produced after the damper comes to hold the cord, and the sound wave produced before that, due to the fact that the time during which the sound is heard being too short, acts like the consonant of the sound wave produced after the damper catches the cord, and sends rather clear sound to the ear. Most of touches of poor pianists, being mostly longer than 0.1 second, cannot produce clear sound.

For the strong touches with straightened fingers, the speed of the damper at the moment the fingers leave the key being faster than in the case where the weaker touches are made with fingers by bending them, the sound produced

by the damper when the latter holds the cord, is irritant to the ears. All of these prove that the tone of the sound produced by the piano is controlled only by one function of length of time. This makes the piano distinctively different from other musical instruments.

When a fine music is played with a piano, the volume of sound is produced with an additional factor of the angular velocity of the hammer. To this tempo is added and a finished music is reproduced.

We also had an occasion to measure this tempo from a play of a famous Japanese pianist, Mr. Moto-sige Iguti. In spite of his beautiful musical scale the time which each of his fingers took differed to a considerable extent, namely the difference in time when the musical scale was lowered with the right hand was as follows:

1. The time consumed when the third finger was shifted to the second finger 0.06 sec.

2. The time consumed when the second finger was shifted to the first finger 0.08 sec.

3. The time consumed when the fourth finger was shifted to the third finger 0.085 sec.

4. The time consumed when the first finger was shifted to the third finger 0.086 sec.

5. The time consumed when the fifth finger was shifted to the fourth finger 0.09 sec.

When the musical scale was raised,

1. The time consumed when the third finger was shifted to the fourth finger 0.06 sec.

2. The time consumed when the second finger was shifted to the third finger 0.07 sec.

3. The time consumed when the fourth finger was shifted to the fifth finger 0.08 sec.

4. The time consumed when the third finger was shifted to the first finger 0.09 sec.

5. The time consumed when the first finger was shifted to the second finger 0.093 sec.

6. The time consumed when the fourth finger was shifted to the first finger 0.125 sec

were shown. Probably the music was not played under the best condition of Mr. Iguti. In spite of the variation in time, the music was satisfactory to the keenest of ears, which appeared rather peculiar. From this, it is apparent that if poor pianists play music, which is offensive to the ear, the variation in time would be unspeakably great. As the result of the above measurements, the objection was raised against us by many pianists who consider that the quality of sound depends on the manner of touch. Even much stronger objection was raised by critics of music against the theory that the quality of sound can be determined by scientific measurements. However, the fact is the same as in the instance when Galileo said: "The earth moves, though."

On the Change of Properties of Die Steels due to the Heat Treatments

By Takejiro Murakami and Atsuyoshi Hatta

The change of the transformation points of six commercial die steels, i. e., 1 non-alloying high carbon steel, 1 low chromium-high carbon steel, 3 high chromium high carbon steels, and 1 tungsten-chromium steel, has been studied by means of the magnetic analysis and differential dilatometric measurement. The measurements were made on the hardness and the abrasion loss of these steels

after several heat treatments under the room temperature, and the impact hardness and the impact value at the high temperature; the microstructure of these steels has also been examined. With both the high carbon steel and the low chromium-high carbon steel, the change of transformation points due to the cooling rate or the maximum heating temperature is not so marked, while with the high chromium-high carbon steels and the tungsten-chromium steel, the change is conspicuous. The difference of the hardness among these steels in their furnace-cooled condition is slight, but that of the air-cooled state is great, according to the composition of the specimen and the maximum heating temperature. The high chromium-high carbon steels and the tungsten-chromium steel are readily hardened by aircooling from above 900°. The high chromium-high carbon steels are markedly hardened after oil-quenched and the maximum hardness can be obtained by quenching from 1000°. The hardness of the high carbon steel after oil-quenched is less than that of the other steels. With the low chromium-high carbon steel and the tungsten-chromium steel, the hardness markedly decreases as the quenching temperature rises from 900° to 1100°, owing to the increase of the residual austenite. These steels with the low hardness value show marked increase of hardness, i. e., "the secondary hardening" on tempering. The same phenomenon is observable in the high chromium-high carbon steels which are oil-quenched from 1150°. The values of the hardness measured at several high temperatures and those at the room temperature after being cooled from these temperatures, respectively, show a parallelism. The abrasion loss is small with the specimens having the large

value of hardness. The impact value of these steels tested is generally small, especially with those of the oil-quenched, nevertheless it increases as the testing temperature rises.

On the Adsorption of Water Vapour by Magnesium Oxide

By Fusao Ishikawa and Kokichi Sano

From the results of the present investigation we have found that magnesium oxide first adsorbs aqueous vapour, and that the adsorption equilibrium is attained before the hydration of the oxide, the latter process proceeding quite slowly as compared with the adsorption process. The velocity of the adsorption of the aqueous vapour in air by magnesium oxide has also been investigated. The adsorption isotherm has been studied at 51°, the result of which may be represented by Freundlich's formula. Finally, the relation between adsorbed quantity, pressure and temperature has been studied, and the linearity between $\log P/aT$ and $1/T$ has been established in the temperature range of 9-42°.

Valence-Theoretic Calculation of Energy of Aromatic Compounds

By Hidehiko Tamaki

The combining energy of simple molecular models of ring compounds was calculated with Heitler-Weyl-Rumer's spin valence theory. The coefficient of Austauschintegral, which mainly determines the combining energy, was found for each model and divided by the number of atoms composing the molecule, in order to compare the stability

among the considered molecules. Against expectation, hexagonal ring of trivalent CH-radicals (benzene) was found to be a little less stable than pair-shaped one (acetylene). It suggests that the spherical asymmetry of the atoms and their combining force, which is neglected in the spin valence theory, should be taken into account (as is done by the theory of orbital valency).

The X-Ray Examination of Selenium Crystals

By Kenzo Tanaka

Several forms of metallic selenium crystals obtained by the condensation of selenium vapour were examined by means of X-rays. The crystal of metallic selenium grows most prominently in its trigonal axis. This growth process of the selenium crystal is interpreted from the standpoint of the growth of homopolar crystals.

The degree of perfection and size of the grain of selenium crystals were estimated from the fine structure of the spectral lines obtained with convergent X-rays. The intensity distribution along the spectral line was interpreted from the intensity distribution of the primary X-rays at various starting points on the surface of the anticathode.

The transition point from the vitreous to the metallic form was determined both by X-ray examination and by measurement of the net densities.

An Investigation of Various Forms of Carbon by means of Cathode Ray Diffraction

By Mitsuwo Miwa

Improving the method of cathode ray diffraction for powered sub-

stances, the various forms of carbon were studied. Most of the results obtained were found to be in good agreement with those by X-rays. The so-called amorphous carbon is merely a very fine form of graphite, and the lattice of graphite greatly expands in the direction of the principal axis, as the grain size diminishes, whereas the crystal lattice remains nearly unchanged in the directions perpendicular to the axis. Some characteristic results caused by the nature of cathode rays were obtained.

The magnetic susceptibility of the samples subjected to the cathode ray investigation was measured, and its relation to the grain size was also studied, finding that the magnetic susceptibility is nearly proportional to the grain size in the range of amorphous carbon.

Further Investigation of the Crystalline Structure of Electrolytic White Tin

By Hideki Hirata and Yoshio Tanaka

The arrangements of the microcrystals in electrolytic specimens of white tin, deposited from sulphuric acid solutions were examined with X-rays by the same procedure as in the foregoing investigation, which dealt mainly with those deposited from hydrochloric acid solutions. From the diffraction patterns obtained, it was found that the microcrystals of white tin have a tendency to be electrolytically deposited with the normals to their (111) faces arranged parallel to a definite common direction, as was the case in our previous research. But in some other respects, especially with regard to the direction of the growth of the deposited white tin, a few dissimilarities were observed from the

results of the former experiments. The cause of such dissimilarities was supposed probably to be due to the difference in the chemical valencies of the ions in the electrolyte.

Some Experiment on Lichtenberge Discharge

By Tatsumi Terada

(1) The size of discharge-figures alter with the varying positions of a resistance which is inserted in series with the lead to the electrode. This phenomenon seems to be due to the superposition of not only an advancing wave but also of the waves reflected at some junctions in the circuit. From the experimental results, it is found that the time of the impulse wave-front in our case is about 2.3×10^{-8} secs. Some other experiments on the Lichtenberge discharge are also described. (2) The effect of self-induction upon Pedersen's short time-measurement is described and it is shown that by this method (under certain conditions) small inductions from about 0.7 to 40 microhenries can be measured. (3) A method for measuring a short time interval by using a low pressure tube is suggested.

The Change of Magnetic Susceptibility in Metals and Alloys Caused by Internal Stress

By Yosomatsu Shimizu

Notwithstanding many investigations hitherto made, the effect of internal stress or cold-working on the susceptibility of metals and alloys has not yet been completely solved. The present investigation was undertaken to obtain a further knowledge on the same subject, and the following results were obtained:— With an increasing degree

of internal stress, the paramagnetic susceptibility of metals and alloys decreases, while their diamagnetic susceptibility numerically increase. In the case of an alloy of gold with platinum, its susceptibility is changed by cold-working from paramagnetic to diamagnetic. Further, a theory is proposed, by which the experimental results obtained can be satisfactorily explained in a quantitative way.

Messung der Helligkeit der Körperfarbe

By Masaaki Yazima and
Hisakichi Kanazawa

Der Einfluss von Helligkeit über die günstige Beleuchtung der Gemälde ist eine wichtige Frage. Es ist sehr zu erwünschen, die Beziehung zwischen der Helligkeit und der Beleuchtung der bunten Gemälde zu finden. Aber leider man hat bis jetzt keinen diesbezüglicher Versuche wahrscheinlich durch die Schwierigkeiten der Untersuchung. Als die

erste Annäherung der Lösung dieser wichtigen Frage, wollten wir in vorliegenden Arbeit, nicht die schwierigen Helligkeitsmessungen von der bunten Gemälde, sondern die Messung von der Farbpapiere, durchführen. 16 Probepapiere waren untersucht, die mit den üblich von japanischen mineralischen Pigmenten, gleichmässig gestrichen wurden. Wir haben drei Methode zur Messung der Helligkeit der Farbpapiere. (i) Die Methode nach der Augenmass, (ii) Vergleichsmethode: Methode mit den Stufenphotometer ohne Filter. (iii) Ostwald'sche Methode.

Die Schlussfolgerungen sind: (i) Diese drei Methoden stimmen beinahe in der Ergebnissen ein, besonders in der ersten und der dritten Methode. (ii) Die Helligkeiten der Pigmente und wahrscheinlich die von der Gemälde, sich nach der Ostwald'schen Methode zahlenmässig darstellen lassen. (iii) Die Anordnung der Pigmente nach dem rein psychologische Farbsinn wie in der ersten Methode trotzdem seinen Einfachheit ziemlich glaubwürdig ist.

Medicine

Influence of Air Ion on Living Bodies

Ishidate and Sanshi Abe

(Hygiene Class Room, Department of Medicine, Hokkaido Imperial University)

Introduction

There has been many changes of theory on the idea of the qualities of air. At present, it is generally understood that the qualities of air depend principally upon the effective temperature or cooling power which are obtained from the various combinations of physical factors of air, such as temperature, humidity and wind velocity.

In recent years, however, aside from these physical factors, ionization of air was suggested, and the effect of air ion upon the human bodies was recognized. Since we devised and made an equipment of measurement in 1932, we examined the ionic content of room and outdoor air. We also ionized the air by an ion-producing apparatus artificially, and have made various physiological experiments. A summary report follows:

Atmospheric Ion

In the previous report, we reported that changes in ionic condition of the air have the most close relation with the direction of winds among various

meteorological factors. To be exact, the ratio of the number of negative and positive ions N^+/N^- (We call this the ion ratio for convenience) varies according to the changes of the direction of winds. According to the results obtained in various places in Hokkaido, the number of positive ions is always larger than that of negative ions when the wind blows to the south-east or to the east, so that the expression would be $N^+/N^- > 1$. On the contrary, when the wind blows to the west, or to the north-west, the number of negative ions was greater than that of positive ions, which is to be expressed by $N^+/N^- < 1$. In Tohoku and Hokkaido districts, the east and east-south winds are called "Yamasekaze", and there is a well known fact that when these winds blow some people feel discomfort, or headache, while others feel that their rheumatism painful. From these facts, it is suggested that aside from various meteorological factors, such as temperature, humidity, wind velocity, quantities of rainfall and sunshine, the atmospheric ion, especially the ion ratio N^+/N^- has a very intimate relation with our comfort degree. Then we examined about four men to see the relationship between the ionic condition of air and blood pressure, pulsation, respiration, body temperature, feelings, etc. for full one year. From this, we recognized the fact that the ionic conditions of air have relations to these physiological actions.

Physiological Experiments

In order to study the effect of atmospheric ion on the living body, we devised an equipment, in which either only positive or negative ion may be collected at one pole, or the mixture of both ions may be produced at convenience. Ordinary

air contains about $10^3-8 \times 10^4$ unit of light or heavy ion in its one c.c. In our experiment, we ionized the room air to the concentration of $5-9 \times 10^5$ per 1 c.c. and experiments such as mentioned below were performed:

(1) Experiment on the Human Body

According to the experiments made on 108 people, both healthy and feeble-bodied, the positive ion acts themselves on the whole, and though there are some exceptions, it causes sleeplessness, headache, or other disagreeable feelings. On the contrary, the negative ion acts like a sedative, and when they are bathed in the negatively ionized air, there appears a stimulating action in the beginning of bathing, but soon the sedative action appears following,—sleepiness, quieting down of coughing, restoring effect of pain, curing of itchiness, prevention of sweating, improvements in appetite, lowering of blood pressure, diuresis, etc. These phenomena did not appear so markedly in healthy people, but they were very clearly produced in the feeble-bodied. In order to find out how these phenomena were produced, or to determine the functional action which produces such phenomena, following experiments were carried:

(2) Action on Blood

In general, when a liquid like salt water or solution of serum is placed in the ionized air positively or negatively, a change would be produced in the hydrogen ion concentration of the liquid, and it was recognized that there is a tendency to make either acidic or alkaline. Then we examined a rabbit exposing in the ionized air. We recognized the fact that when the animal was exposed in the ionized air positively charged, the blood showed a tendency to be acidosis,

while in the case of negative ion, the blood showed a tendency to be alkalosis. And, it is well known that if there occurs any changes in the hydrogen ion concentration of the blood, it causes various changes in the many functions of the whole body.

(3) Action on Growth

A group of young guineapigs were exposed in the ionized air every day, and its growth were carefully observed. Generally, the animals which were exposed in the negatively ionized air lost their weight markedly in the first few days of experiment, but soon recovered its growth and well developed. On the other hand, when the animals were exposed in the positively ionized air, the loss of weight was not so obvious in the beginning of experiment, but thereafter the increases of body weight were comparatively small. Differences in the growth of animals under two conditions appeared to be clearly noticeable.

(4) Action on Blood Vessels

It appears that, why the change is produced in the blood pressure by the air ion is not yet well understood. At present, it is a well known fact that as regards the blood pressure, a great importance is placed on the contraction and expansion of the minute arteries in the whole body, aside from the effect produced by the function of the heart. We, therefore, made an experiment on the blood vessel of a membrane of the web-foot of a frog. According to this experiment, the negative ion appears to have effects in expanding capillaries, while the positive ion contracts them. Therefore, the effect upon the blood pressure due to the ion of air appears to be on the expansion and contraction of the minute arteries and capillaries, apart from the action

produced by the function of the heart.

(5) Experiment on Specimen of Nervous Sinew

A specimen of sinew of a frog was prepared, and a curve of regular fatigue was drawn. When the height of contraction of sinew became small, and the air of that part was ionized into the negative ion, then the sinew contraction, though small in degree, became larger again according to the concentration of the ion, which indicated in some instances the phenomena of recovery from fatigue. But when the air was ionized into the positive ion, the phenomenon was not so clearly noticeable. In the experiments which were performed on specimen of nervous sinew, the action of the ion was more clearly produced, which showed that the ion acts more keenly on the nerve than on the sinew.

(6) Application to Fatigue of Operatives in Mills

Negatively ionized bathing was tried to scores of operatives who were suffering from sleeplessness, headache, fatigue, etc. which appeared to have been caused by overworks. Though there were some exceptions in which the curing effects could not be clearly noticeable, these symptoms either disappeared completely or showed great improvements in majority of cases.

Conclusion

From our experiments on the relations between the air ion and living bodies, we have learned that the air ion is one of important factors which has much effect on living bodies in the air, apart from the several physical factors such as temperature, humidity, wind velocity, and sunshine, which have been thought in the past as important. We believe that further research will have to be done for the various branches of hygiene.

CHAPTER XXXIV

PRESS AND PUBLICATIONS

Press

Early History

Yomiuri Even in Old Japan some form of public announcement was issued from time to time, like the *Acta Diurna* of the era of the Roman Empire, but perhaps the present subject may appropriately be begun with the *Yomiuri*, the oldest semblance of the newspaper, which name can be literally translated "reading aloud and selling." The *Yomiuri* sheets were so named because the venders read aloud the contents of the newspaper on the street while soliciting buyers. The *Yomiuri* sheets were essentially the *Flugblatt* of the Middle Ages of Europe. They consisted of single printed sheets, or pamphlets of several pages, recording the latest events of the period. Even in those days the progress of wood-block prints permitted the appearance of illustrations in the sheets. In many cases the illustrations were the outstanding feature, and the descriptive matter was of secondary importance. In this respect the *Yomiuri* differed from the *Flugblatt* of Europe.

Its Publishers Old records are lacking to identify the publishers of the *Yomiuri*, but it appears that the publishers of newspapers, or rather equivalents to newspapers, in the earlier part of the Tokugawa period (about 250 years before the Restoration of Meiji, 1868) were men of little fame and honour. Even at the end of the Tokugawa period it appears that the publishers of the *Yomiuri* were men of so lowly posi-

tions that they were not permitted to enter the society of even wood-block printers. It is, however, considered likely that this early form of the newspaper failed to make any progress owing to government pressure. The *Yomiuri* carried contents that were often inflammatory and distasteful to the government. Suspension of publication was ordered so frequently that no decent publishers dared to take it up as an enterprise. Only men of low repute engaged in the business often against the law.

Printing of the *Yomiuri* sheets was done by wood-block prints. The contents of the *Yomiuri* sheets can generally be divided into two, prose and poetry. This distinction, it appears, existed from the early part of the Tokugawa period. In the era of Genroku (1688-1703) the hawkers sold their sheets on the street either calling the attention of prospective buyers by singing, with or without the accompaniment of the *samisen*, or merely reading aloud the contents. At the end of the Tokugawa period sheets were sold with the sellers singing popular ballads.

Its Contents A perusal of those *Yomiuri* sheets still extant shows that at the outset of the development the chief interest of the sheets lay in the illustrations. What are believed to be the oldest *Yomiuri* have illustrations of the Battle of the Osaka Natsu-no-jin in May in the first year of the era of Genna (1615), accompanied by descriptive matter. Judging from the frequent

issuance of suppression or suspension orders, Yomiuri sheets appear to have been published and sold in abundance during the eras of Empo (1673-80), Teikyo (1684-87) and Genroku (1688-1703). In Western Japan, with Osaka as the centre, there is evidence of the popularity of erotic contents in Yomiuri sheets, featuring such stuff as stories of double suicides. Since the vendetta of the famous Forty-seven Ronin vendetta stories formed the chief subject of interest and after the era of Genroku subjects of natural calamities were featured. In the eras of Bunkwa (1804-17) and Bunsei (1818-29) the enforcement of justice and morality undertaken by the Shogunate government, stressing the protection of right and chastisement of wrong, was reflected in the stories featured in the Yomiuri sheets of those days, even in the accounts of natural calamities and those of sex relations. Because the stories were written by men of low repute, the contents of the Yomiuri sheets in many cases were repellent in tone. Immediately before and after the Restoration of Meiji accounts of the civil disturbances were written, but by this time the number of Yomiuri sheets had considerably decreased owing to the appearance of newspapers in the more correct sense of the term.

Fusetsugaki Another equivalent of the modern newspaper, in addition to the Yomiuri, was a periodical named "Fusetsugaki" or Book of Reports, which carried foreign intelligence. These books were of two kinds, one with Dutch and one with Chinese reports. After the third Tokugawa Shogun adopted the policy of seclusion, it was only China and the Netherlands which had intercourse with Japan. Captain "Yanyos" (Jan Josten) of Holland, after Japan's adoption of the se-

clusion policy, presented annually a book descriptive of foreign affairs to the Shogunate government. It was the Oranda Fusetsugaki, or Book of Dutch Reports. The Chinese government in those days presented to the Shogunate government of Japan Chinese intelligence after the manner of the Dutchmen. Information obtained thus was placed in the hands of the Prime Minister and kept confidential, but after the American "black ships" came to knock at the door of Japan, permission was granted to make copies of those books for public circulation. The presentation of Dutch documents continued until the era of Ansei (1854-59), but as the country was opened to foreign intercourse this custom was discontinued at the request of the Dutch government, which instead of the customary annual volume presented Dutch newspapers to the Japanese government. It is considered certain that the newspapers thus presented to Japan were copies of the *Javasche Courant*, organ of the Government of Batavia.

Precursor of Modern Paper When the provincial clans requested that the Dutch Book of Reports be made public, the Shogunate government's *Yosho Shirabesho*, or Bureau for the Study of Western Learning, agreed and planned to publish it. This plan did not materialize, as the Dutch government then replaced the book with newspapers, but instead, the bureau translated the newspapers into Japanese and published them for general circulation. This was the precursor of the modern newspaper in Japan. Not content with this Dutch newspaper, the Shogunate government continued to translate and publish other newspapers from Holland and imported Chinese-language newspapers published by white Christian evangelists in Hong-Kong, Shanghai and other places, and had

them not only translated and annotated but printed and bound into books and entrusted Hyoshiro Yorodzuya, a book purveyor to the Shogunate government, with the public sale of these books. In general printing wooden types were used. For printing these Chinese newspapers imposition was adopted and for this purpose the Shogunate government had to establish a special department for type foundry. This enterprise was a reflection of the out-and-out principle the Shogunate government adopted for opening the country to foreign intercourse. Those books were chiefly published during the era of Bunkyu (1861-63). Hence they were popularly called Bunkyu Shimbun (newspaper).

Papers in Yokohama In the meantime, anti-foreign sentiment was gaining force in this country and after the era of Bunkyu this interfered with the translation and publication of foreign newspapers. Foreign residents of Yokohama, however, translated and published foreign-language newspapers in Japanese and they were patronized by those who favoured opening the country to foreign intercourse. Men on the staff of the Bureau for the Study of Foreign Learning had an eye on foreign affairs and established a new institution for the purpose of translating into Japanese articles dealing with Japan which were printed in the English-language newspapers in Yokohama, such as the *Japan Commercial News* and *Japan Times*. Those translations were not printed but written by scribes and circulated among interested persons. The years during which this was done extended from 1863 to 1865. Foreign residents of Yokohama also published three Japanese-language newspapers, *Kaigai Shimbun* (Foreign Newspaper), *Bankoku Shimbun*

(International Newspaper) and *Rondon Shimbun* (London Newspaper). Of these three, the *Bankoku Shimbun* had in its contents not only foreign intelligence but news of Yokohama and comment on the English-language newspapers of Yokohama; it introduced ideas of British civilization and carried many advertisements. This journal was edited ably in a characteristic style and published monthly. From this time general progress in newspaper-making was noticeable.

Foreign Language Papers The first foreign-language newspaper published in Japan was the *Nagasaki Shipping List and Advertiser* issued for the first time in the year 1861 by a resident Britisher, Mr. Hanseard. It was a weekly. The publisher soon moved to Yokohama, where he continued his publication under the name of *The Japan Herald*, the first issue of which was brought out in December of the same year. He employed Mr. Black, another Britisher, then a resident of the port city, as editor-in-chief. The example set by the *Japan Herald* was soon followed by the appearance of the *Japan Commercial News* in 1863, a weekly published by a Portuguese. In October of the same year the *Japan Herald*, in addition to the weekly, started a daily newspaper which featured advertisements. In the year 1865 the *Commercial News* was discontinued and Mr. Rickerby, a banker, bought the newspaper equipment and started the *Japan Times* in September of the year. In 1867 Mr. Black had a dispute with the new owner of the *Japan Herald*, and, leaving the paper, he issued the *Japan Gazette*, an evening paper. The popularity of the *Japan Gazette* overwhelmed the *Japan Times* and the latter lost much patronage and finally had to discontinue publication. The disappearance of the *Japan*

Times, however, was followed by the launching of the Japan Mail. In addition to these newspapers, there was another English-language newspaper, having the name of the Japan Express, published by an American, whose first issue appeared in 1866. The copies of this newspaper were hand-written, carved in wood blocks, and printed. While the name of the publisher and the period of publication are unknown, it is recorded in a diplomatic document in the possession of the French government that this journal represented the American interests. In addition to these papers, there were also a French newspaper, *L'Echo du Japon*, in the era of Keio (1865-7), an English magazine of caricature, the *Japan Punch*, which was published continuously for 20 years from the era of Bunkyo (1861-3), and a French magazine of caricature entitled *Tobayé*. These publications stimulated directly or indirectly the birth of the Japanese modern newspapers.

The Restoration Demand for foreign intelligence was the principal factor in the birth of newspapers in the East as in the West. In Japan, too, newspapers of the earlier periods carried much foreign news, but when there were big developments like civil disturbances they played up internal affairs. The Restoration of Meiji in 1868 afforded the press of Japan much scope for development. Newspaper editors in Yedo, the present Tokyo, were excellent scholars and their papers were much superior to those edited in the provinces. One of the papers in Yedo already advocated parliamentary politics as early as this period. Newspapers published by those holding the "Emperor-centric" policy were filled with articles which merely reflected on the intelligence of the editors themselves. They only advocated the "Emperor-centric" policy and did

not propose any advanced ideas about reforms. Newspapers affiliated with the Shogunate government enjoyed much larger circulation than their competitors and it is stated that one of them had a circulation of 3,000.

The Press Law

The press law in Japan was enforced by the Government for the first time in February, 1869. This was the signal for several new newspapers to spring up. The Government, however, interfered so much with the press that sales of newspapers were much hindered and the healthy progress of the press was checked. While the business side of the press was dull, editing itself attained notable progress. Political news had become unusually constructive and efforts were made to establish a new civilization and propagate new and advanced ideas among the people.

Modern Papers

The Yokohama Mainichi The first true Japanese daily newspaper appeared in December, 1870, with the publication of the *Yokohama Mainichi Shimbun*. Not only was this newspaper a daily but it consisted of a single foreign-style paper sheet with printing done with lead types. In outside appearance it had the semblance of the modern newspaper. Although its contents were much inferior to those of the newspapers that were founded later in Tokyo, it resembled English-language newspapers in that it carried many advertisements.

More Papers Born The year 1872 saw several more dailies born, newspapers which were more perfect in appearance and reading matter than their predecessors. Those newspapers included the *Tokyo Nichi Nichi Shimbun*, *Yubin Hochi Shimbun*, and

the *Nisshin Shinjishi*, the last being edited under the supervision of Mr. Black, formerly editor of the *Japan Herald*. The *Nichi Nichi* and *Hochi* remain to this day but the *Shinjishi* had to change hands in 1875 when the Government, in an effort to bring pressure to bear upon democratic newspapers, controlled the activities of foreigners in newspapers. The change of ownership brought decadence to the journal and the paper was discontinued shortly afterward.

Government and Press

Era of Terrorism An era of terrorism dawned upon Japan's journalism in 1875 when the government, dissatisfied with the way in which the press in general stirred up the discontented elements of the people, revised the press law with the avowed purpose of curbing the influence of the newspapers. Severe punishment was provided for violation of the press law. Journalists writing articles censuring the government were fined or imprisoned. Indeed, this was the first time journalists in Japan were exposed to punishment. Not content with this cruel legislation, the government in July, 1877, invested the Home Minister with power to suppress newspapers or delay their publication, and he was thus free to bring pressure to bear upon them as he saw fit. This objectionable law worked havoc with the press, whose progress was much hampered thereby.

The era in which newspapers served as political party organs began in 1881. Two years before that time the movement in favour of instituting the Diet was launched by the late Taisuké Itagaki and others.

Revised Press Law The government's desperate policy of oppression toward the liberals of the period, which resulted in the prohibition of

the formation of political associations and the oppression of newspapers and magazines, came to a definite halt on December 26, 1887, with the enforcement of a new government decree. Two days later a revised press law was issued, considerably modifying the strict control of the press, which had had the effect of almost exterminating all the free political organs of the country. The new press law was drafted on the basis of the principle of "freedom of the press," recognized in the Japanese Constitution which was to be promulgated shortly. The new press law was received by journalistic circles with much satisfaction. Indeed, the modified press law marks a turning point in the history of the development of the modern newspaper in this country.

Whereas under the old law a prospective publisher had to apply for a permit to start a newspaper, by the new regulations he had only to notify the authorities of his intention to issue a journal. The prefectural governor was robbed of his power to suppress newspapers or confiscate the newspaper plants and only the Home Minister was given such power. Unreserved criticism for public good was admitted, and compared with the despotic rule that had prevailed before, newspaper management under the new law became markedly free.

Emergence of Independent Dailies

The approaching promulgation of the Constitution, coupled with the removal of the ban on the formation of political associations and the growing political enthusiasm among the people, revived political newspapers. In the meantime, the Diet was instituted and the majority of the best-known editors of influential newspapers were elected to the legis-

lature. As a natural consequence, the newspapers of these editors became their political tools and alienated public sympathy. Their popularity showed a decided tendency to wane.

The Kokumin and Yorozu While the political organs were thus losing influence, a strictly politically-independent newspaper which refused to cater for the popular taste of the people but which assumed an attitude to instruct the public was founded and caught the fancy of the intellectuals of the day. Its editing, however, was on the old lines and this newspaper never became popular. In the year 1890 Mr. Ichihiro Tokutomi founded the Kokumin Shimbun, a popular newspaper. This journal enjoyed the support of the masses and soon other papers more or less imitated the style of editing inaugurated by the Kokumin. In 1892 the late Mr. Shuroku Kuroiwa founded the Yorozu Choho, which added to the Kokumin's style of editing a strong spice of sensationalism, devoting much of its space to the publication of detective and love stories. The Yorozu invaded the fields of the Miyako Shimbun, Yamato Shimbun and other newspapers then having the largest circulation. Thus, the promulgation of the Constitution served to bring about marked progress in the development of the modern newspaper in this country.

Chinese War and the Press The Sino-Japanese War (1894-5) caused severe competition in news reporting. The Osaka Asahi Shimbun, by introducing new features in covering war news, greatly increased the number of its subscribers. In Tokyo the Chuo Shimbun, closely affiliated with the military, was conspicuous for its activities in the issuance of extras and consequently gained an enlarged circulation. Other papers

also sent war correspondents and featured news from the front. The Yorodzu then was the most popular newspaper, having a circulation of 50,000. In point of circulation the newspapers of that time were in the following order: The Yorodzu Choho, Kokumin Shimbun, Tokyo Asahi Shimbun, Miyako Shimbun, Nihon Shimbun, Chuo Shimbun, Tokyo Nichi Nichi Shimbun, Jiji Shimpo, Mainichi Shimbun, Yubin Hochi Shimbun and Yamato Shimbun. The war was also responsible for the appearance of influential provincial newspapers, including the Fukuoka Nichi Nichi Shimbun in Kyushu, the Shin Aichi in Nagoya, the Kahoku Shimpo in Sendai and the Hokkai Times in Hokkaido.

After the Russian War

Catering to the Public Following the Sino-Japanese War the majority of the newspapers in Tokyo adopted an impartial attitude toward politics and concentrated their efforts in popularizing their pages. To advance their sales they resorted to means which often savoured of vulgarity and received public criticism. The city of Osaka witnessed a duel between the Asahi and the Mainichi not only in business but in news gathering. In the meantime, the Russo-Japanese War (1904-5) occurred to start keen competition in war coverage. The Asahi both in Tokyo and Osaka, the Osaka Mainichi and the Jiji Shimpo competed severely in the matter of extras and increased their circulation. At the end of the war the peace treaty was signed at Portsmouth, but the peace terms were found unsatisfactory and stoutly opposed by all the newspapers of Tokyo and Osaka, with the exception of the Kokumin and the Chuo, both of Tokyo, the political organs of the then Government. Anti-peace mass meetings

were held both in Tokyo and Osaka, and in Tokyo the participants in the mass meeting, incited by inflammatory articles in one or two newspapers, turned into a mob and attacked the building of the Kokumin Shimbun. To suppress the mob the government had to proclaim martial law. The government simultaneously issued an urgent Imperial Ordinance and suspended the publication for certain periods of the newspapers which incited the public to violence. During one month shortly after the enforcement of the Imperial Ordinance the Yorodzu, the Niroku, the Miyako, the Nihon, the Jimmin, the Asahi of Tokyo and Osaka, and other papers were suspended. Of these papers, the Niroku and the Osaka Asahi suffered suspension twice in a month.

Equilibrium of Influence The panic in the newspaper world thus brought about upset the equilibrium of influence. The Kokumin was robbed of much circulation; so was the Chuo. The Yorodzu, with a special appeal to the youth of Japan, increased its circulation markedly. In Osaka the Mainichi took advantage of the suspension of publication which the Asahi suffered and invaded its unfortunate yet heretofore superior competitor's field, with the result that finally their influence in business and other respects became about even.

Motion Picture Utilized Several changes for the better were effected following the Russo-Japanese War, and it is noteworthy that the changes effected all concerned the newspaper enterprises. The Kokumin, which had suffered a dwindling popularity since the paper became the object of public censure by supporting the government that signed a "humiliating peace treaty," issued provincial editions, an example which was soon followed by other news-

papers. Shortly afterward the Hochi attained success by issuing an evening edition. This ambitious enterprise was also followed by several other competitors. As regards the contents of newspapers, the Yorodzu reported all sorts of sports and amusements; the Asahi brightened its pages with articles from the pen of famous men of letters like the late Soseki Natsumé, and the Hochi established a precedent by carrying a novel in serial form that suited home reading. On the business side, the Hochi took the initiative in establishing provincial branches. The Yamato promoted an exhibition and began a motion picture demonstration show throughout the country.

That these enterprises attained favourable results soon showed in the increased number of circulation. According to reports considered reliable, the Osaka Asahi topped the list with 350,000. The Osaka Mainichi came next with 300,000, and the other papers came in the following order: the Hochi, 200,000; the Yorodzu, the Kokumin and the Yamato each 150,000; the Tokyo Asahi, 80,000, and the others 30,000 or 40,000 each.

In the Taisho Era

Expansion of the Business One notable advance made by the press of Japan during the Taisho era was the remarkable expansion of newspaper business. All first-class journals erected imposing structures for their offices and installed expensive high-speed presses. By the end of the era all the leading newspapers in Tokyo and Osaka had become public corporations with their capitalizations above the ¥1,000,000 mark. The earthquake and fire of 1923 reduced to ashes the majority of the newspapers in Tokyo, except the Hochi, Nichi Nichi and Miyako.

Of the unfortunate sufferers, those financially well off got to a good start and soon recovered their former positions, but those less financially favoured failed to raise their heads again and had to be content with insignificant showings. At present the Osaka Asahi and Osaka Mainichi possess more than 1,000,000 subscribers each, and big papers in Tokyo have subscribers approaching the above figure. It is not an exaggeration to say that the achievements made by the press of Japan after the dawn of the era of Showa (1926-) are a high-water mark of Japan's modern culture.

Present-Day Newspapers

The newspaper business in Japan as a whole in recent years has developed to such an extent that in its scale, system and construction as a modern industry, as well as in the rapidity and accuracy of news dispatching and reporting, it can be favourably compared with that in any other country of the world. The attainment of Japanese newspaper business is owing first to the cultural development of Japan and also to the strenuous efforts of men interested in the enterprise.

Number of Newspapers

The number of daily newspapers in Japan proper at the end of 1933 was 1,179, showing a gain of 55 over the end of 1932, according to government statistics. In addition, there were on the same day 461 newspapers issued 4 times or more a month and 5,038 newspapers issued 3 times or less a month. All these make an aggregate of 6,678. The newspapers classified according to prefectures follow:

Prefecture	Daily papers	Issued 4 times or more a month	Others and Total
Tokyo	208	102	1,510
Kyoto	39	14	390
Osaka	90	47	634
Kanagawa	18	4	83
Hyogo	41	25	245
Nagasaki	17	6	88
Niigata	22	21	120
Saitama	11	3	69
Gumma	16	4	74
Chiba	14	3	89
Ibaraki	8	—	121
Tochigi	14	5	61
Nara	7	4	78
Mie	22	11	110
Aichi	81	17	465
Shizuoka	39	4	116
Yamanashi	8	—	31
Shiga	23	1	61
Gifu	13	3	79
Nagano	37	13	223
Miyagi	19	1	49
Fukushima	24	3	70
Iwaté	12	4	39
Aomori	12	7	52
Yamagata	14	4	50
Akita	6	13	44
Fukui	12	9	63
Ihikawa	8	7	38
Toyama	7	8	72
Tottori	5	3	33
Shimane	3	1	31
Okayama	11	4	99
Hiroshima	22	8	168
Yamaguchi	34	12	119
Wakayama	19	8	75
Tokushima	4	—	23
Kagawa	3	1	59
Ehimé	18	7	120
Kochi	3	2	35
Fukuoka	64	32	262
Oita	33	2	79
Saga	10	3	41
Kumamoto	8	7	60
Miyazaki	11	2	32
Kagoshima	5	1	37
Okinawa	3	4	13
Hokkaido	81	21	350
Total	1,175	461	6,678

Mainly in Tokyo and Osaka As may be seen from the above table, the majority of newspapers are published in Tokyo and Osaka. This is because Tokyo is the capital of the Empire and Osaka is the centre of social and economic life in West Japan. The combined number of

daily newspapers in the two largest cities is 25 per cent. of all and their combined circulation covers almost all parts of this country. Large daily papers have their own provincial editions of more than 20 kinds. The spheres of provincial editions are divided between the large papers of Tokyo and Osaka. Tokyo papers publish provincial editions for Eastern Japan, Hokkaido and Saghalien, while Osaka papers issue those for Western Japan, Shikoku, Kyushu, Korea and Formosa. These provincial editions eat into the business spheres of country papers. Re-

cently, Tokyo and Osaka papers have been issuing Manchurian editions. Next to these cities in the number of their papers come Aichi (Nagoya), Hokkaido, Kyoto, Hyogo (Kobé), Fukuoka and Nagano prefectures, reflecting the extent of cultural development of those localities. Okinawa prefecture (Loochoos) issues only 16, the smallest number of all, and 19 are issued in Tokushima prefecture in Shikoku.

Increase or Decrease The following table gives the number of newspapers which increased or decreased each year, from 1922 to 1933:

	With Guarantee Money			Without Guarantee Money					
	Sum total	Total	Daily	4 times or more monthly	3 times or less monthly	Total	Daily	4 times or more monthly	3 times or less monthly
1922	4,562	3,403	690	263	2,450	1,159	175	103	881
1923	4,592	3,608	762	264	2,577	939	131	81	777
1924	5,854	4,184	793	310	3,081	1,670	155	103	1,412
1925	6,899	4,739	826	313	3,600	2,160	186	142	1,332
1926	7,600	5,089	861	344	3,884	2,511	174	165	2,172
1927	8,350	5,488	916	380	4,142	2,912	177	170	2,565
1928	8,445	5,482	966	399	4,117	2,968	184	178	2,601
1929	9,191	5,917	1,020	417	4,480	3,274	201	193	2,850
1930	10,130	5,995	1,031	428	4,536	4,135	184	221	3,730
1931	10,666	6,290	1,083	476	4,731	4,376	197	247	3,932
1932	11,118	6,391	1,124	463	4,714	4,817	206	241	4,370
1933	11,860	6,678	1,179	461	5,038	5,182	210	231	4,711

Circulation

Circulation Unpublished The circulation of daily newspapers in Japan ranges from about 4,000 to about 1,500,000. Japanese newspapers never make public their exact circulation. For this reason, it is impossible to get the exact figures of circulation of each or any. What is believed to be comparatively correct of the daily circulation of more than 1,100 newspapers is an estimate of about 19,000,000. The number of households in Japan is over 17,500,000. Newspapers are far more widely read in cities than in provinces and they are read more in commercial and industrial districts than in agricultural districts. Tokyo has

the largest number of daily newspapers, and the more powerful ones are a well-defined force in society. Among them are the Tokyo Asahi Shimbun, the Tokyo Nichi Nichi Shimbun, the Yomiuri Shimbun, the Hochi Shimbun, the Jiji Shimpō, the Miyako Shimbun, the Kokumin Shimbun and the Chugai Shogyo Shimpō. The first-mentioned two papers are predominant, having an overwhelming influence in newspaper circles. As organizations for news reporting these two giant papers rank among the world's largest newspapers.

Osaka City has a relatively small number of daily papers, 86 in all, but, as regards circulation, the Osaka Asahi Shimbun, which is the head office of the Tokyo Asahi Shimbun,

and the Osaka Mainichi Shimbun, which controls the Tokyo Nichi Nichi Shimbun, predominate all, and their circulation is said to be nearly the same. The two papers have practically the whole of Western Japan under their control, and their influence is felt stronger in Kyushu districts by the publication of the "Kyushu Asahi" and the "Western Mainichi" commenced in February, 1935.

Estimated Circulation Estimated circulation of leading dailies in Japan at the end of 1933 was as follows:

Tokyo	
Tokyo Asahi Shimbun	1,100,000
Tokyo Nichi Nichi Shimbun	1,000,000
Jiji Shimpō	300,000
Yomiuri Shimbun	650,000
Chugai Shogyo Shimpō	150,000
Kokumin Shimbun	150,000
Hochi Shimbun	400,000
Osaka	
Osaka Asahi Shimbun	1,300,000
Osaka Mainichi Shimbun	1,200,000
Leading Provincial Papers	
Shin-aichi, Nagoya	200,000
Fukuoka Nichi Nichi, Fukuoka	180,000
Hokkai Times, Sapporo	100,000
Kahoku Shimpō, Sendai	100,000

Subscriptions Subscription fees of Japanese daily papers in large cities range from 80 to 90 sen. Airplanes are used for transportation between Osaka and Fukuoka, but in most cases it is done by trains and electric cars.

English-Language Papers English-language daily papers in Japan proper and colonies are as follows: The Japan Advertiser (American), The Japan Times (Japanese owned), both in Tokyo, the Osaka Mainichi English Edition (controlled by the Osaka Mainichi Shimbun), the Japan Chronicle (British), the Kobe Herald and Osaka Gazette (British), both in Kobe, the Seoul Press (Japanese), in Keijo, and the Manchuria Daily News (Japanese), Dairen.

System of Newspapers

The Asahi Shimbun Here the two representative Japanese dailies, the Tokyo (Osaka) Asahi Shimbun and the Tokyo Nichi Nichi (Osaka Mainichi Shimbun), are selected as examples for explaining the business system of Japanese newspapers. The Osaka Asahi Shimbun was founded in January, 1879. A retrospect of the past fifty years of the Asahi will "convince the public that the ideal set forth in the beginning that the paper should grow to be a great power like the 'rising sun', Asahi, and its opinion be as fair and impartial as the sun, has been fulfilled, for it now occupies one of the foremost positions among the daily papers not only of Japan, but of the world, and its views on current topics are very weighty in forming the public opinion of the country." The success of the Asahi is due to the able management of the late Ryuhei Murayama, whose career is identified with the history of the paper. It was in 1881 that he started the paper. With the financial support of the late Riichi Uyéno he pushed on the business.

The Mezamashi Purchased At that time Japanese journalism was in a backward position, and the daily papers were divided into two classes, one consisting of large papers whose main principle it was to discuss political problems, and the other of small papers printing novels and daily social events. The Asahi belonged to the latter category at first, but Murayama made his organ fall in line with the prevailing tendency, to become a paper possessing the characteristics of the two classes. He made it accessible to and readable for all classes of society. Inventions were utilized by him. For example, he made full use of the telegraph, which was not

commercialized then. In this way, the Asahi, which at first was in straitened circumstances, began to pay, and in a few years it grew to be one of the leading papers of Japan. He purchased a Tokyo daily named the Mezamashi in 1888 and renamed it the Tokyo Asahi Shimbun. Other large rival papers started a united front against the Tokyo Asahi, but it tided over the crisis. Murayama was the first newspaper manager to publish sister papers in the two largest cities of Japan, and this method was copied by the Jiji Shimpō, which started the Osaka Jiji Shimpō in 1905, although the two Jijis have now severed their connections altogether. The Asahi was the first of all Japanese papers to install the rotary presses in 1890. After the Russo-Japanese War the Asahi by general consent became the largest paper in Japan. By this time, the Osaka Mainichi had begun to be the most influential rival paper of the Asahi. When the Russo-Japanese War broke out in 1904, the Asahi with its superior correspondence ramifications fulfilled its mission as reporting organization of the war. The following statistics give an outline of the status of the Asahi Shimbun.

Its Capitalization The Asahi Shimbun Publishing Company is a joint-stock concern with a capitalization of ¥6,000,000. The number of personnel, excluding despatch boys, was 2,212 for the Osaka Asahi and 1,583 for the Tokyo Asahi, a total of 3,795, at the end of 1933. The Asahi is equipped with 36 super-speed presses, one German Iris colour press, 2 German gravure presses, 19 airplanes, 500 carrier-pigeons, 2 sets of telephoto equipment and private telephones between Tokyo and Osaka. Besides its two dailies, the Asahi publishes the following periodicals all in vernacular: the Weekly Asa-

hi, the Asahigraph (weekly), the Asahi Sports (bi-monthly), the Asahi Camera, the Screen and Stage, the Woman, Children's Asahi and the Library Editions of the Osaka and Tokyo Asahi (monthly). "Japan in Pictures," Asahigraph overseas edition (monthly) and "Present-day Japan" (annual), both in English, are published by the Asahi. It has its own special correspondents in London, New York, Paris, Berlin, Shanghai, Peiping, Nanking, Moscow, Los Angeles and Harbin and possesses both Junker and Puss Moth planes.

Its System The system of Osaka and Tokyo Asahi offices is:

General Affairs Bureau

President
Vice-President
Managing Director
Directors
Auditors
Secretariat

Printing Bureau:

Printing Section
Technical Section

Business Bureau:

Sales Section
Advertising Section
Accounts Section

Editorial Bureau:

Editing Section
News Dispatching and News Receiving Section
Politics Section
Social News Section
Photograph Section
Foreign News Section
Reference Section
Sports Section
Proof-reading Section
Asahigraph Section
Science and Arts Section
Enterprise Section
Aviation Section
Section of Correction of Errors

Each bureau and section has its own chief. The editorial bureau has besides the sections, editorial managers, advisers and editorial writers, who are controlled by the chief of the editorial bureau.

Aerial Mail Service The Asahi Shimbun inaugurated regular mail

aviation between Tokyo and Osaka and between Tokyo and Sendai in 1923. With the establishment of the Japan Air Transport Company, the Asahi transferred gratis these services to the company. Since August, 1929, the Asahi has been operating the Tokyo-Niigata regular mail aviation.

The Osaka Mainichi and Tokyo Nichi Nichi. The Osaka Mainichi originated in the Osaka Nippo, then the largest daily in Osaka, first published in 1876. The present name was adopted in 1888. Already in those days, the Osaka Mainichi was one of the most influential papers in the country. In 1889 the late Osamu Watanabé reorganized the paper into a partnership enterprise, with the support of the late Hikoichi Motoyama. The late Takashi Hara, afterwards Premier, once assumed presidency of the paper, but he let it in 1900 and was succeeded by the late Eitaro Komatsubara, once Education Minister. It was in 1903 that Motoyama became the president. Through his efforts the paper gained prominence. Its capitalization is ¥10,000,000, the principal shareholders being businessmen of Tokyo and Osaka. This is in contrast to the shareholders of the Asahi, who are mostly men connected more or less closely with the paper. In Tokyo, the Osaka Mainichi inaugurated the Mainichi Dempo and absorbed the Tokyo Nichi Nichi in February, 1911. The Tokyo Nichi Nichi, which thus came under control of the Osaka Mainichi, has the oldest history in Japanese journalism; it was published in 1872 by a group of the most advanced men of the day, including the late Genichiro Fukuchi, one of Japan's famous writers. Count Miyoji Ito once controlled this paper as a Government organ. In 1904, the paper was transferred to the Iwasaki family,

the nucleus of the Mitsubishi interests. The Osaka Mainichi has a large staff, its members numbering 2,124 and the Tokyo Nichi Nichi 3,454. Motoyama died in 1932 and was succeeded by Mr. Motosuké Kido, whose position was chairman of the directorate following reorganization of the system. But, he soon resigned the post and was succeeded by Dr. Minoru Oka. The paper, in addition to its regular editorial staff, has many editorial advisers, including Mr. Ichiro (Soho) Tokutomi as contributing editor, Mr. Yosaburo (Sansa) Takekoshi, men of literary fame, and several others.

Its Departments The editorial department of the Osaka Mainichi and Tokyo Nichi Nichi consists of the editorial bureau which attends to the general make-up of the paper and to which are attached a political section, reference section ("morgue"), and camera squad; the domestic news bureau; the foreign news bureau (exclusive of the Eastern Asia news bureau, specially devoting its efforts to covering news in China, Manchuria and Siberian Russia) the central transmission bureau, which is in charge of receiving news from all parts of the country and also exchanging news with the Tokyo Nichi Nichi and vice versa; the literary bureau which attends to the editing of daily feature page, the Sunday Mainichi, a popular weekly magazine, the Mainichi year book, and other special publications; the editorial section which is composed of the editorial writers; and the proof-reading bureau. All of these bureaux come under the direct control of the executive editor who is assisted by the editorial manager; the editorial director, meanwhile, controls the editorial writers of the Osaka Mainichi and the Tokyo Nichi Nichi. The business department consists of the sales (circulation)

bureau, the advertisement bureau, the accounts bureau, and the printing bureau, all of which come under control of the head of the business department. Like the Asahi Shimbun, the Osaka Mainichi Publishing Company maintains branch offices and stations and resident staff correspondents in all the principal cities of this country and abroad.

The Equipment It also has its exclusive long-distance telephone system between the Osaka Mainichi and Tokyo Nichi Nichi. A squad of specially trained stenographers at both ends send and receive news at the rate of 1,000 words per three minutes. The latest N.E. type telephoto apparatus, invented by Dr. Niwa, is used in sending not only photographs but facsimiles of official documents and important manuscripts between Tokyo and Osaka. The Osaka Mainichi typographical department has 11 Nippon Ultra-Lightning Presses, each one of which is capable of printing 150,000 4-page sections per hour; in addition, there are 12 high speed units, each one of which prints from 72,000 to 90,000 4-page sections an hour. The Nippon Ultra-Lightning Presses were built by R. Hoe & Company of America specially for the Mainichi. The Osaka Mainichi has a Lockheed Altaire plane, made by the Detroit Aircraft Corporation. The Osaka Mainichi plane develops a maximum speed of 227 miles an hour with a cruising range of 3,500 kilometres. The Tokyo Nichi Nichi has a Breda 33 High Speed Touring Airplane of Italian make.

Tickers and Accessory Business Two tickers are installed at the Osaka Mainichi. These instruments record the pulse of financial circles from time to time from the Osaka Stock Exchange. Each one of three units of the Albert rotogravure press (German made) can print 24,000 4-page sections per hour. These

three combined can print a 48-page gravure magazine of half the standard newspaper size in one process. They are also capable of doing multi-colour printing. One of the features of the Osaka Mainichi is that since 1922 it has been publishing the Braille Osaka Mainichi, a weekly paper. This is the only periodical for the blind issued in Japan. The Osaka Mainichi also publishes a large number of periodicals, including Japan, Today and Tomorrow, an annual magazine printed in English, the Mainichi Directory, an annual publication in Japanese, the Sunday Mainichi, the Economist, a bi-monthly economic magazine in Japanese and many others. The Osaka Mainichi Charity Corps, organized in 1911, deal with circuit hospital-work, relief of the poor, poverty prevention, support of various social welfare enterprises and emergency relief of sufferers.

News Agencies

The Shimbun Rengo Tsushin Sha (Associated News Agency) is one of the two largest news agencies in Japan, the other being Nippon Dempo Tsushin Sha. The former used to be known as the Kokusai Tsushin Sha, which was founded by the late J. Russell Kennedy. He transferred his interest in the business to the present management. Shimbun Rengo consists of a large number of Japanese daily newspapers as members and its directorate is organized by representatives of six Tokyo dailies, two Osaka dailies and six large provincial papers. It maintains close relations with the Associated Press in America and with Reuter's, as well as the Tass News Agency in the Soviet Union in news dispatching to and from Japan. In domestic news service the institution plays the most important part. Mr. Yukichi Iwa-

naga is managing-director. Nippon Dempo was founded by Mr. Hoshio Mitsunaga, the present president. It is more outstanding in domestic news service than foreign cable distribution, which is maintained in co-

operation with the United Press. Whenever important international events are held, these two news agencies make great competitive activity, sending their staff correspondents abroad.

Leading Newspapers and their Presidents

Location	Capitalization	Presidents or Representatives
Tokyo		
Tokyo Nichi Nichi Shimbun	¥10,000,000	Minoru Oka
Tokyo Asahi Shimbun	6,000,000	Seiichi Uyeno
Hochi Shimbun	1,100,000	Seiji Noma
Yomiuri Shimbun	Private	Matsutaro Shoriki
Chugai Sogyo Shimpō	2,000,000	Tokichi Tanaka
Jiji Shimpō	5,200,000	Shozo Yamamoto
Miyako Shimbun	3,000,000	Eisuké Fukuda
Yamato Shimbun	Private	Fumio Iwata
Kokumin Shimbun	3,000,000	Moriji Shiki
Chuo Shimbun	400,000	Katsuzo Horikawa
Niroku Shimpō	Private	Kaida Kazuma
Yorodzu Choho	"	Zenji Hasegawa
Tokyo Maiyu Shimbun	320,000	Masajiro Kimura
Tokyo Yukan Shimpō	Private	Tetruya Nakajima
Japan Advertiser	150,000	B. W. Fleisher
Japan Times	500,000	Hitoshi Ashida
Osaka		
Osaka Asahi Shimbun	6,000,000	Seiichi Uyeno
Osaka Mainichi Shimbun	10,000,000	Minoru Oka
Osaka Jiji Shimpō	500,000	Nobuyoshi Shindo
Other Prefectures		
Fukushima Minyu Shimbun (Fukushima)	330,000	Kiyoshi Ujiié
Kahoku Shimpō (Miyagi)	Private	Jiro Ichiriki
Iwaté Nippo (Iwaté)	200,000	Kotaro Ota
Akita Sakigaké Shimpō (Akita)	300,000	Wafu Ando
Niigata Shimbun (Niigata)	200,000	Sukesaku Yamada
Shinano Mainichi Shimbun (Nagano)	300,000	Takeo Kosaka
Shinaiichi (Aichi)	1,500,000	Ukichi Oshima
Nagoya Shimbun (Aichi)	1,050,000	Shoji Koyama
Shizuoka Minyu Shimbun (Shizuoka)	200,000	Zemzaburo Nagata
Gifu Nichi Nichi Shimbun (Gifu)	Private	Katsumi Takahashi
Isé Shimbun (Mie)	300,000	Yoshiharu Matsumoto
Hokkoku Shimbun (Ishikawa)	150,000	Masataké Hayashi
Goshu Nichi Nichi Shimbun (Shiga)	200,000	Shichiemon Nakamura
Kyoto Hinedé Shimbun (Kyoto)	500,000	Bunzo Gokawa
Kyoto Nichi Nichi Shimbun (Kyoto)	500,000	Nobuyoshi Shindo
Kobé Shimbun (Hyogo)	500,000	Nobuyoshi Shindo
Kobé Yushin Nippo (Hyogo)	500,000	Ryo Noma
Japan Chronicle (Hyogo)	Private	Douglas George Young
Chugoku Nichi Nichi Shimbun (Hyogo)	200,000	Yoshic Uchida
Tokushima Nichi Nichi Shimpō (Tokushima)	150,000	Yen Matsushima
Sanin Nichi Nichi Shimbun (Tottori)	250,000	Eihiro Miyoshi
Chugoku Minpo (Okayama)	300,000	Seiichi Kakihara
Chugoku Shimbun (Hiroshima)	300,000	Saburo Yamamoto
Kwammon Nichi Nichi Shimbun (Yamaguchi)	Private	Tetsunosuké Suemitsu
Fukuoka Nichi Nichi Shimbun (Fukuoka)	1,000,000	Shingo Nakaé
Kyushu Nippo (Fukuoka)	600,000	Jiro Kono

	Capitalization	Presidents or Representatives
Nagasaki Shimbun (Nagasaki)	100,000	Tatsujiro Hashimoto
Kyushu Shimbun (Kumamoto)	300,000	Daishiro Takagi
Kagoshima Shimbun (Kagoshima)	Private	Saneyoshi Kodama
Hokkai Times (Sapporo, Hokkaido)	800,000	Takeshi Azuma
Otaru Shimpō (Otaru, Hokkaido)	460,000	Toshihisa Ueda
Hakodaté Mainichi Shimbun (Hakodaté, Hokkaido)	300,000	Tsuguo Okuda
Karafuto Jiji Shimbun (Maoka, Karafuto)	150,000	Juntaro Nagai
Taiwan Nichi Nichi Shimpō (Formosa)	1,000,000	Toru Kawamura
Keijo Nippo (Korea)	500,000	Tatsuo Nakao
Manchu Nippo (Dairen)	750,000	Chujiro Matsuyama
Manchuria Daily News (Dairen)	Private	Yasutaro Takayanagi
Hoten Mainichi Shimbun (Mukden)	200,000	Kinshi Matsumiya
Shengking Jihpao (Mukden)	350,000	Yasuzo Soméya

Advertisements

Naturally advertisements form one of the largest sources of income of the newspaper business, along with the subscription fees. About ten large papers in Japan carry the majority of advertisements in the country; while other papers are doing a poor business in this field. For example, the Tokyo Nichi Nichi Shimbun secured altogether 527,000 lines of advertisements for April, 1932, and the Tokyo Asahi Shimbun acquired 422,000 lines of advertisements in addition to the "Want

Ads." for the same month; but, in reality, their income from advertisements has been yearly decreasing, in spite of the fact that strenuous efforts are being made by leading papers for selling space. Eight large advertising service agents in Tokyo are supplying advertisements to daily newspapers on commission. These agents are the Nippon Dempo, Haku-hodo, Toyokuni Tsushin, Shojikisha, Kokokusha, Kohodo, Keikasha and Mannensha. "Want Ad." rates of the Tokyo Nichi Nichi and Tokyo Asahi are as follows:

3 Line Ad.		5 Line Ad.		10 Line Ad.	
Once	Asahi	Once	Asahi	Once	Asahi
¥2.50	2.00	4.20	4.00	8.00	7.50
3 times 2.30	1.80	3 times 4.00	3.50	3 times 7.50	7.30
10 times 2.00	1.60	10 times 3.80	3.20	10 times 7.00	6.80
15 times 1.70	1.40	15 times 3.40	2.80	15 times 6.60	6.50
20 times 1.50	1.30	20 times 2.80	2.60	20 times 6.30	6.00

Newspaper Organizations

The Japan Newspaper Association (Nippon Shimbun Kyokai) This consists of daily newspapers, news agencies and advertising agencies under Japanese management; it was founded in 1913. His Imperial Highness Prince Naruhiko Higashikuni has been honorary president of this association since 1926. Count Keigo Kiyoura, former

Premier, is president and Mr. Hoshio Mitsunaga, president of Nippon Dempo, is director-in-chief. It has among its honorary members noted persons such as Mr. Ichiro Tokutomi, Mr. Yukio Ozaki, Mr. Seiichi Uyeno, Dr. Jujiro Miyaké, Dr. Minoru Oka, Mr. Ukichi Oshima and Mr. Takeshi Azuma. The association membership includes almost all the Japanese daily newspapers. The Shunjukai is a social club of

newspaper editors, magazine writers and correspondents. It was organized in 1908 and has among its members leading newspapermen and magazine writers of Tokyo. The Nijuichinichikai is composed of high editorial staff members of daily newspapers. It was established in 1926. Its members are editorial directors, managers, news editors and other men of important positions in the editorial service of influential papers. The Shimbunkisha Club (Newspaper-

men's Association) consists of newspapermen and news agency reporters mostly connected with the business of the Imperial Diet. The Federation of Newspapermen and News Agency Reporters was organized in 1931. It consists of 46 newspapermen and news agency reporters' clubs which are connected with various governmental institutions and economic and financial bodies. Leading newspaper and news agency reporters' clubs are as follows:

Nagata Club
Kasumi Club
Yamahita Club
Sakurada Club
Kunai Kisha Kai
Kokuchokai
Rikugunsho Kisha Club
Naimu Kisha Club
Takebashi Club
Zaisei Club
Kinyu Club
Nosei Club
Unemé Club
Kabuto Club
Tetsudo Kisha Club
Shiho Kisha Club
Tokyo Undo Kisha Club

Connected with the Cabinet.
Foreign Office
Seiyukai
Minseito
Imperial Household Department
Navy Ministry
Army Ministry
Home Office
Ministry of Education
Ministry of Finance
Bank of Japan
Ministry of Agriculture and Forestry
Ministry of Commerce and Industry
Stock Exchange
State Railways
Ministry of Justice
Modern Sports

Newspaper Courses in Universities
The Meiji University and Jochi University, Tokyo, opened their newspaper courses in April, 1932. The Newspaper School (Shimbun Gakuin), founded by Mr. Shinjiro Yamane, of the Kokumin Shimbun, sent out its first graduates numbering 40 in December, 1932. The Tokyo Imperial University Journalism Course, established as a section of the Department of Literature was opened in April, 1932. Mr. Hideo Ono is in charge of the course. Lecturers include noted newspapermen and magazine proprietors having many years' journalistic experience. The Newspaper Course of the Jochi University was opened in April, 1932.

Mr. Ono is in charge of this course also.

Students' Newspapers At the end of 1932 there were 51 so-called students' newspapers in Japan. These papers are published by universities and schools once a week or once or twice a month. The Teikoku Daigaku Shimbun, issued by the Tokyo Imperial University, is one of the largest of its kind and is issued every Monday. It is an eight-page paper, which was founded in 1920. The Kyoto Imperial University also issues a newspaper of the kind. The Mita Shimbun is issued by the Keio University and is one of the oldest and most influential of those published by private universities. It was founded in 1917.

Publications

A Historical Summary

The number of books published in Japan prior to 1881 is not accurately known. But judged from the records and catalogues of books now existing, they may be roughly taken as follows:

About 1,800 between the time of founding the country and one year before the time when the Shogunate Government was established at Kamakura.

About 5,000 since the establishment of the Shogunate Government at Kamakura until one year before the time when the Tokugawa Shogunate was established.

About 60,000 between the establishment of the Tokugawa Shogunate and the Meiji Restoration.

About 130,000 between the 1st and the 10th year of Meiji, 33,819 between the 10th and the 13th year of Meiji, and 679,368 between 1881 and 1924. Statistics for latest years follow:

1925	18,028
1926	20,212
1927	19,967
1928	19,880
1929	21,111
1930	22,476
1931	23,110
1932	22,104
1933	24,025
1934	26,331

Publications in 1934

General The publication of the country in 1934 was remarkable in that it showed a tremendous increase in the number of books put out. Viewed from the standpoint of contents of these books those on religion were so overwhelmingly large in number that in the latter part of the year books written on other sub-

jects were overpowered by them. Aside from religious subjects, the book like "Japan-American Baseball Game" sold somewhere around 150,000 copies. But this was only an exception. In examining books written on subjects other than religion, it is found that it followed the footsteps of the preceding year. Publications on radicalism and fascism which were once so popular decidedly lessened in number and there were not more than ten of this description published. The contents of some of these books, did not go beyond expounding theories in an abstract manner. On the other hand, in view of the so-called crisis of 1935-6 and of the social conditions of the country, the mobilization of the moral forces of the people was considered necessary, and this was directly reflected on the publication of books.

Number of Publications The number of books published in 1934 was 26,331 (excluding publications by the Government), and was the largest ever seen. The tendency is that the number of publications is on the increase since 1932. This is especially marked in 1934, in which the increase over the previous year was 2,306. The figures for 1933 and 1934 as classified according to the kinds are as follows:

Kind of books	1933	1934
Ordinary books	16,472	16,921
Pamphlets and leaflets	5,468	7,117
Hand-bills	422	701
Photographs, maps, musical notes, drawings	1,663	1,592
Total	24,025	26,331

The comparative figures of publications in 1933 and 1934 show that a great increase in publications was shown in 1934 in three categories of

books, pamphlets and leaflets, and hand-bills. The examination of the subjects of publications amply shows the tendency prevailing in this country in 1934. The fact that the issue of hand-bills increased in a great proportion as compared with the previous year was due to the fact that labour disputes occurred in many places, the most important of which being that occurred in Tokyo between the Electric Department of Tokyo municipality and its employees.

Classification by Subjects Publications may be classified according to their contents into 31 kinds. Brief comments may be given on a few of them:

(A) **Politics** There were 704 books written on politics in 1934. As compared with 581 published in 1933, the increase was 123. The reason of the increase is that due to the change of the Cabinet, pamphlets with comments on the old and new Cabinets appeared in great numbers. Books which contained mere adaptations of the Western ideas disappeared, and their place was taken by publications which treated the subjects from the viewpoint or with reference to the Japanese spirit. This tendency was visible in 1933, but it was far more accentuated in 1934.

(B) **Law** There were published in 1934 635 books on law, which, as compared with 699 of the year before, showed a decrease of 64. Publication of books on law does not generally vary in number to any great extent every year. The reason that an unusual increase was witnessed in 1933 was that laws such as Draft and Cheque Law, Prevention of Cruelty to the Children Law, Regulations of Automobiles, and Pension Law were either enacted or revised, so that many books giving interpretations of new laws were

published.

(C) **Economics** In 1934, 1,005 books on economics were published, which, as compared with 1,128 of 1933, showed a decrease of 123. The reason was that in 1933 translation of many books on economic conditions in the world, especially those in Great Britain and the United States of America, were published.

(D) **Sociology** In 1934, 832 books on sociology were published, which, compared with 990 of 1933, showed a decrease of 158. This was the tendency in the past several years, which is significant as reflecting the social conditions of the country. As explained before, publications on radicalism and fascism, or those which deal with the subjects on thought had been decreasing for some time and it is not too much to say that publications of that nature ceased to come out in 1934. These publications were being rapidly replaced by books which purported to arouse the Japanese spirit. The table below shows statistics of publications on sociology in the past four years:—

Year	1931	1932	1933	1934
Number	1,279	1,321	990	832

The great increase in 1932 was due to the fact that books on fascism was very popular. This, however, did not last long, and showed a great decrease in 1933, making a further decrease since then.

(E) **Religion** In 1934, 1,339 books on religion were published, which, compared with 1,045 of 1933, showed a great increase of 294. Books on religion, to which much attention had not been paid till a few years ago, became extremely popular in 1934. The lectures on the sacred books by the broadcasting, evidently set the vogue and swept the publication circle. But the question remains

if this tendency is destined to live long, for popularity of books seems to have no firm basis to stand on or the present popularity of religious books can not be regarded as a sign of religious revival.

(F) **Military Affairs** It deserves an attention that books on military affairs have increased a great deal in recent years. In 1934, the number published was 407, which, compared with 156 of 1933, show that it made a tremendous increase by 2.6 times. It explains how the people were aroused on the subject. Those published in October and November, were mostly those which treated the London Naval Disarmament Talks.

1933 and 1934 Compared The number of books published in 1933 and 1934 classified according to contents, and their comparative figures follow:

Books on	1933	1934	Increase or decrease in
			14
Politics	581	704	123
Law	699	635	-64
Economics	1,128	1,005	-123
Sociology	990	832	-158
Military affairs	156	407	251
Statistics	104	190	86
Shintoism	225	217	-8
Religion	1,045	1,339	294
Philosophy	564	955	391
Education	2,727	2,798	71
Text-books	1,948	1,809	-139
Literature	2,652	2,431	-221
Languages	862	1,114	252
History	455	470	15
Biography	302	532	230
Geography	708	986	278
Travel	47	77	30
Mathematics	87	202	115
Physics	458	448	-10
Engineering	387	724	337
Medicine	771	809	38
Industry	435	1,166	731
Transportation	73	151	78
Fine arts	844	907	63
Music	915	888	-27
Amusement	451	552	101
Household	1,020	1,163	143
Handicrafts	94	67	-27
Dictionaries	151	134	-17
Series	18	234	216
Miscellaneous	3,027	2,415	-612

Of the total number of publications during the year 1934, 16,611 or 63 per cent. were published in Tokyo.

Merger of Two Printing Companies

The question of merger of four largest printing companies in Tokyo, viz. Kyodo, Toppan, Nisshin and Shuei Sha arose sometime in the summer of 1932. If the merger materialized, it was thought that all the large orders of printing of books or magazines would be monopolized by the new company, and the other small printing firms would then be compelled to do only miscellaneous works, and its outcome was watched with very keen interest. Nothing was heard about the merger since then. In the meantime a new proposition for a merger was made through Mr. Giichi Masuda, member of the House of Representatives, who is director of both the Nisshin and the Shuei Sha. Two companies held a temporary shareholders' meeting on the 2nd of May, 1934, and passed officially the resolution for the merger. The new company has a capital of ¥6,000,000, of which ¥4,250,000 is paid up. The capital of the new company is the mathematical sum of ¥2,000,000 (of which ¥1,250,000 was paid up) of the Nisshin and ¥4,000,000 (of which ¥3,000,000 was paid up) of the Shuei Sha. Each of the two former companies has equal claims to the new company.

Imports and Exports During the Meiji and Taisho eras the imports of publications far exceeded the exports. The balance, however, gradually decreased because of a steady increase in exports. In 1934 the total value of imports amounted to ¥2,266,436 against ¥1,921,996 of exports. The destinations of the exports were mainly the countries where the Japanese are residing in great numbers, such as the Kwantung Province, Manchoukuo, the U.

S. A., the Hawaii Islands and China. The countries from which books are exported to this country are, in the order of importance, England, Germany, the U. S. A. and France. Details follow:

EXPORTS AND IMPORTS OF BOOKS AND PERIODICALS

(in Yen)

	Exports		Imports	
	1933	1934	1933	1934
Manchoukuo	263,628	412,755	9,488	9,456
Kwantung Province	341,573	577,903	3,908	6,378
China	159,227	210,539	6,964	21,807
Hong-Kong	3,350	8,968	250	—
British India	1,898	3,316	162	961
Straits Settlements	40,572	48,538	465	649
British Borneo	1,103	1,500	—	—
Dutch East Indies	2,245	8,243	481	383
French Indo-China	272	66	7	—
Asiatic Russia	1,188	806	136	40
Philippine Islands	28,285	26,277	5	—
Siam	342	170	2	185
Great Britain	12,094	15,550	547,950	818,827
France	3,807	10,901	101,347	139,540
Germany	11,547	44,643	563,203	790,828
Belgium	3,220	214	1,272	1,954
U.S.A.	270,250	293,112	266,274	445,789
Canada	20,772	23,811	6,511	3,470
Peru	4,778	2,968	—	—
Brazil	24,163	40,969	826	—
Australia	703	5,887	—	—
Hawaii	179,179	173,616	—	—
Others and Total	1,383,137	1,921,996	1,531,506	2,266,436

Public Libraries Public libraries both official and private are to be found in all parts of Japan. During 1933 there were 4,686 public libraries throughout Japan.

The largest public library in Japan is the Imperial Library situated in Uyeno Park, Tokyo. Here large reading rooms allow visitors by the thousand to be seated comfortably. There are a countless number of old and new books stored for public perusal. A feature of this library is the large number of books from foreign countries which the institution possesses for its visitors. Books may also be taken outside, but this privilege is enjoyed only by yearly subscribers. The Tokyo Imperial University Library, rebuilt following the earthquake and fire of 1923, is another large library in Japan.

The following table gives detailed figures regarding the number of public libraries, both official and private, and the number of visitors, and the number of books collected:

Table Showing No. of Libraries, Visitors and Collection of Books

Year	No. of libraries	No. of collection of books	No. of visitors
1929	4,490	8,592,000	22,847,000
1930	4,553	9,276,000	23,835,000
1931	4,609	9,636,000	23,365,000
1932	4,609	10,138,000	24,980,000
1933	4,686	10,563,000	24,766,000

Magazines

Historical One of the oldest magazines in Japan was the "Meiroke-zasshi" which was published in 1873. But this magazine was full of heavy material only suitable for scholars.

It was four years later that a number of magazines to cater to popular interest came into existence. The magazine named "Marumaru-chimbun", for instance, was one of these and was full of sarcastic verses, popular lyrics and also of many laughter-provoking cartoons. Short stories were also favourable reading matters in it. For novels principally appeared the "Hodan-zasshi". For pleasure-reading the "Robunchimpo." There also appeared a magazine named "Tokyo-shinshi" written chiefly in Chinese, but decidedly erotic. There were also such ones as the "Homei-shinshi," "Moon and Snapping Turtle" and "Kwagetsu-shinshi," and "Shimbunshi."

The "Homei-shinshi" was a more or less imitation of the "Tokyo-shinshi." The "Tsuki-to-Suppon" (Moon and Snapping Turtle) was largely a cartoon paper. The "Kwagetsu-shinshi" (Flower and Moon Magazine) was a pure literary paper under the editorship of Ryuho Nari-shima and lasted about five years from 1879. The "Shimbunshi" (New Proses and Verses) was under the editorship of Shunto Mori. Political magazines also were not slow to arise. The "Ohmei-shinshi" was a private organ of democratic politicians such as Saburo Shimada, Ikuzo Ohoka and Ryo Koyezuka and was full of fervent articles of democratic principles. The "Fuso-shinshi" was also another of this type of magazines, and there were many others of this sort of papers. No one, however, lasted long, because they all evoked official ban soon. Among these political magazines there was one "Dekinei-sodan" which is remembered by the imprisonment of Eitaro Komatsubara, later Education Minister, on account of his anti-Government articles. It was not, however, Mr. Komatsubara alone who

was sent to jail on account of one's political view outspoken in letters. Many were imprisoned on account of similar offences. Ryuoku Nari-shima of the "Kwagetsu-shinshi" was once forced to spend months in jail. As the day of the first opening of Parliament drew nearer, the number of political magazines increased. In 1886 the "Chuo Koron" (Central Review) was first published. The year 1887 was an epoch-making in the history of magazines in Japan as it was in February of that year that Mr. Iichiro (Soho) Tokutomi started a publishing society named "Minyu-sha" with the "Kokumin-no-tomo" as its organ which surpassed all other periodicals of the day in the amount of circulation. A few months later the Kokumin Shimbun, a daily paper, was published by the same society headed by Soho Tokutomi. In June the Hakubun-kwan was brought into existence which soon published the "Nippon Taika Ronshu" (Essays by Great Scholars). This resulted in a big success. The "Jogaku-zasshi" (Ladies' Magazine) of Zenji Iwamoto, the "Kyoiku-hochi" (Educational News) of Sanosuke Kusakabe and the "Tetsugaku-kwai Zasshi" (Philosophical association magazine) of Yenryo Inouye, were published almost simultaneously. The circulation of the aforesaid "Nippon Taika Ronshu" was indeed an epoch-making in the sales of all published matters in those days. In 1889 the Hakubun-kwan published the "Nippon no Shonen" (Children of Japan) which surpassed the "Nippon Taika Ronshu" in the amount of circulation. Even that, however, counted only ten thousand, a fact quite uncomparable to the modern colossal number of successful publishing matters. The business condition of the Hakubun-kwan went on successfully and in January, 1895, they published the

"Taiyo" (Sun) which soon secured 50,000 readers. In 1904 another hit was made by the issue of the "Nichi-Ro Senso Shashin Gaho" (graphic news of the Russo-Japanese War) which was published alongside the "Nichi Ro Senso Jikki" (true stories of the Russo-Japanese War), with 150,000 copies published. Some months later such magazines as the "Jitsugyo no Nippon" (Japan of Business), "Fujin-sekai" (World of Women), "Nippon Shonen" (Youths of Japan) etc. were published by Mr. Giichi Masuda which caused a great sensation among the magazine people. Another noted publisher of those days was a certain Mr. Shimada who published a number of periodicals for youths and children and also for arts to an equally big surprise to other publishers. It is of interest to note that both Mr. Masuda and Mr. Shimada as well as Mr. O-hashi of the Hakubun-kwan were men from Niigata prefecture. In 1919 the "Kaizo" was published and became a good rival of the "Chuo Koron" which had attained leading position in the magazine world of Japan by this time. Years later came another big magazine man and he was Mr. Seiji Noma, now president of the Dai Nippon Yuben-kai (Eloquency Society of Great Nippon) and also president of the Hochi, one of the leading dailies in Tokyo. His first periodical enterprise was the "Yuben" (Eloquency) which was followed by the "Kodan" (Heroic Story) "Club" "King", "Fujin (Women) Club" and "Gendai" (Present Day). It is a matter of surprise, indeed, that the circulation of the "King" numbers one million copies monthly. In the meantime, the "Taiyo" of the Hakubun-kwan which lasted 36 years disappeared from the magazine world. Soon a rival of the "King" in the bigness of

circulation appeared and that was the "Shufu-no Tomo" (Friend of Household Wives) by Mr. Takeyoshi Ishikawa.

Present State At present these two, the "King" and the "Shufu no Tomo", are the two rival million scale periodicals in Japan, and following them are the "Hino-dé" (Sun-rising) of the Shincho-sha, "Kaizo" (Reconstruction) of the Kaizo-sha, "Chuo-koron" (Central Review) of the Chuo-koron-sha, "Bungei-shunju" (Literary Review) of the Bungei-shunju-sha, etc. all of which are for popular interest or for women.

Hardly a month passes without seeing seven or eight new magazines. Of course, this increase is counteracted by those which are discontinued. After all, however, whilst there is continuously a great number of magazines that disappear, there are constant recruits.

Serious Periodicals Those patronized by intelligentsia are the "Chuo Koron", the "Kaizo", the "Gaiko Jiho", and others. The last mentioned one is specialized in foreign affairs, but the first mentioned two have a wide sphere of current topics treated in them. Politics, social affairs, economic depression, education, religion and other matters are substantially printed. These magazines have readers of many years' standing. The "Bungei Shunju" prints mostly literary articles and novels in its regular issues and fictions in its special issues. The Nihon Gaiji Kyokai, otherwise known as the Foreign Affairs' Association of Japan, which was founded in 1931, publishes a monthly titled the "Kokusai Hyoron" (International Review), which characterizes in printing articles regarding events of international and domestic affairs of a serious nature. The association also issues an English-language

quarterly, "Contemporary Japan", which is the only English-language magazine in Japan treating politics, foreign affairs, economy, finance and social problems of this country. These Gaiji Kyokai periodicals are read by people of enlightened class and rank among magazines of the most advanced status in this country.

Economic and Woman's Journals Students of economy and finance in Japan and close observers of industrial situation of Japan take interest in reading the "Diamond", the "Economist" and the "Toyo Keizai", all claiming a high reputation for many years as economic periodicals. The first-mentioned especially is read by investors in securities. Magazines standing for nationalism are read widely along with a general tendency, of which nationalism is gaining momentum, while those of communist taint are neglected. However, magazines for State socialism are not at all to be despised by reading public. As women's magazines, the "Fujin Koron", the "Fujin Club", the "Shufu-no Tomo", etc., are read widely among young women.

LIST OF PRINCIPAL PERIODICALS

Politics, Law and Social Magazines:
Chuo Koron (Central Review)

Kaizo (Reconstruction)
Kokusai Hyoron (International Review)
Sekai Chishiki (World Knowledge)
Shakuseianku Jiho (Social Policy Review)
Kokusai Chishiki (International Knowledge)
Gaiko Jiho (Diplomatic Review)
Bungei Shunju (Literary Review)
Hogaku Shimpo (Science of Law)
Finance and Economic Magazines:
Toyo Keizai Shimpo (Oriental Economic Review)
Economist
Diamond
Keizai Oran (Economic Review)
Keizai Chishiki (Economic Knowledge)
Keizai (Economy)
Popular Magazines:
King
Hinode (Rising Sun)
Kodan Kurabu (Kodan Story Magazine)
Gendai (Present Generation)
All Yomimono (all Stories)
Hanashi (Story)
Shinseinen (New Young Generation)
Literary Magazines:
Bungei (Literary arts)
Bungaku (Literature)
Bungaku Hyoron (Literary Review)
Shincho (New tide)
Araragi, a waka magazine
Hototogisu, a haiku magazine
Butai (Stage)
Woman's Magazines:
Fujin Koron (Woman's Review)
Fujin Kurabu (Woman's Club)
Shufu-no Tomo (Friend of Ladies)
Fujin-no Tomo (Woman's Friend)

NUMBER AND KINDS OF MONTHLY MAGAZINES

Kind of magazines	Number of magazines
For children	62
.. boys and girls in elementary schools	12
.. ladies and families	21
On amusements and cartoons	21
On moving pictures	16
.. dramas	6
.. literature	35
.. poetry	5
.. songs	15
.. haiku verse (seventeen syllable epigram)	18
.. fine arts and calligraphy	15
.. photographs	7
.. music	11
.. popular science and radio	10
.. athletics and physical culture	14

Kind of magazines	Number of magazines
For youths, and on culture and military affairs	9
On languages	31
.. mathematics, and for undergoing entrance examinations to various schools	19
.. education	80
.. laws	17
.. politics, sociology and reviews	73
.. economics, finance and commerce	71
.. industry and engineering	41
.. farming and agricultural science	25
.. religion	22
.. sciences	58
.. medicine and hygiene	33
.. taste	13
.. travel and mountaineering	11
Miscellaneous	7
Total	782

Statistics of Newspapers and Magazines

The statistics of the publication of newspapers and magazines since 1875 is appended for convenience. The figures are those of newspapers and magazines published in accordance with the newspaper law. The statistics prior to 1875 is not available.

Year	Total	(No. of Newspapers)
1875	53	—
1885	321	—
1895	753	—
1905	1,775	—
1915	2,851	—
1925	6,899	—
1926	7,600	(5,089)
1927	8,350	(5,438)
1928	8,445	(5,482)
1929	9,191	(5,917)
1930	10,130	(5,995)
1931	10,666	(6,290)
1932	10,960	(6,301)
1933	11,880	(6,673)
1934	12,056	—

CHAPTER XXXV

LITERATURE, ARTS AND MUSIC

Literature

History

Yamato Period The history of Japanese literature may be divided, in accordance with the political development of the country, into 6 periods: the Yamato, Heian, Kamakura, Muromachi, Yedo and Tokyo periods. The Yamato period comprises the Kodai (archaic period) and the Nara age that followed. The term, Yamato, is derived from the district of Yamato wherein was the seat of the Imperial capital throughout that age. This nascent age of Japanese literature ended in 781 A. D., with the removal of the Imperial capital to Kyoto, then called Heian, by the Emperor Kammu. It may seem improper to include so long a period under one section, but this early stage of Japanese literary growth can thus conveniently be considered as one concrete age, and be studied as such.

(1) **Literary works.** The literary works which reveal the mind of the Yamato period and which are still extant, are: the Kojiki, Nihonshoki, Fudoki, Norito, Senmyo, Manyoshu, Kaifuso, and Nihonraiki.

The principal writers are: Ohno-Yasumaro, Toneri-shinno, Yamabé-no-Akahito, Kakinomoto-no-Hitomaro, Yamanoeno-Okura, Otomono-Yakamochi, Ohmino-Mifuné, besides certain sages of the prehistoric age. The last mentioned, Ohmino-Mifuné, was proficient in Chinese classics and poetry.

(2) **Development and classification.** Narrative prose and lyric verse assumed concrete form in this period. From a literary point of view the writings of the period can be divided into two sections: works in descriptive style, of which the Kojiki is the main representative; and poetry that followed, with the Manyoshu¹ anthology as the typical poetic composition.

Individual self-consciousness realized meagre general development; instead, a collective sense controlled society. But ample evidence of a pure national spirit is seen. In the latter part of this period alien ideas were introduced from China and India, but could not find their way deeply into the minds of the people. It is not to be wondered at, therefore, that the literary achievements

¹ Manyoshu (or Manyoshu) The anthology is considered to be one of the greatest poetical attainments of the nation not only in this period, but all through the Japanese history of literature. Its compiler is unknown. The period, in which the poets of the book lived, covers 450 years from 313 to 764 A.D., and the range of the social standard of the poets extends to all classes from the Emperor down to the farmer or the hermit. The book contains 4,406 poems, which consist of 252 long poems, 4,172 waka and 62 others. Their themes are taken from human relations, love, lamentation, the four seasons, and natural scenery. They are written in the Yamato dialect with Chinese characters. The eminent anthologists in it are Kakinomoto-no-Hitomaro of the epic long poems; Yamanoéno-okura of the long lyrics who took his themes from social and economic problems of his day; Yamabeno-aka-hito, the only poet on nature among the group; Otomono-yakamochi who is believed to be the compiler of the book himself by many critics, and Nukatanohogimi and Sakanoé-iratsumé, who distinctly tower above many poetesses who left beautiful love songs with the anthology to their posterity.

of this awakening period are instinct with the noble national spirit of loyalty and ancestor-worship, permeated with the national traits of optimism, frankness, and genuine simplicity.

Heian Period The Heian period starts from the year in which the Emperor Kammu removed the Imperial palace to Kyoto, then called Heian, and ends in 1186 when the Shogunate government was established by Yoritomo Minamoto at Kamakura. This second literary period, covering nearly 400 years, following the period of dawn, saw Japanese prose and poetry reach full bloom.

Generally speaking, the literature of the period emerged from a style of clear-cut simplicity to one of elegance and delicacy, all literary productions assuming a mood of refined sentiment. In presentment likewise there appeared the graceful kana syllabary, in keeping with current ideas. This harmonization of content and form in the literature of the Heian period set an example to succeeding generations. The Heian period is thus the golden age of Japanese literary achievement. The period may further be subdivided into the following four sections:

- Early Heian period (781-884)
- Middle Heian period (885-980)
- Mature Heian period (981-1064)
- Last Heian period (1065-1182)

(1) Early Heian Period. During this period, imported Chinese culture exercised no small influence on the literary circles of the country, resulting in the popularity of Chinese classics and poetry. Among poetical works are the Ryouunshu, Bunkashureishu, Keikokushu, while among authors were the Emperor Saga, Kukai, Onono-Takamura, Miyakono-Yoshika, Oyeno-Otondo, Sugawarano-Koreyoshi, Tachibanano-Hirosuké, Sugawarano-Michizané, Fujiwara-

no-Sukeyo and Miyoshi-Kiyoyuki. With the overwhelming influence wielded by these imitators in the domain of newly imported Chinese literature, the Japanese waka (31-syllabled poem) was threatened at one time with relegation to obscurity. But the situation was saved through realization of a proposal from Sugawarano-Michizané to discontinue the customary visits of Government envoys to China. In consequence, Chinese literature gradually lost its former influence, and the eminent position once occupied by this alien form of belles-lettres was taken by Japanese poetry. The forerunner of the revived waka verse was the Rokkasen, a collaboration of six representative poets, namely, Ariwarano-Narihira, Onono-Komachi, Bunyano-Yasuhidé, Kisen-hoshi and Otomono-Kuronushi. A further literary achievement of the period is the appearance of works in the Japanese kana syllabary, such as the Taketori-monogatari and the Isé-monogatari.

(2) Middle Heian period. This is the age of national consciousness when the waka poetry triumphed over Chinese forms, pushing itself forward like tidal waves. In poetry works like the Kokin-wakashu and Gosen-wakashu are prominent, while in fiction such works as the Utsubo and Ochikubo and Tosa-nikki, in Japanese kana syllabary, are representative products.

(3) Mature Heian period. This is the period in which the literary development of the Heian era attained the highest perfection, creating a golden age of prose. In the field of waka we have such poets as Izumi-shikibu, Akazome-Emon, Fujiwarano-Kinto, Fujiwara-Sane-kata and Noin-hoshi, while in the realm of prose there appeared woman novelists, like Murasaki-shikibu and Seisho-nagon, the former being

the authoress of the Genji-monogatari,¹ while the latter composed the Makurano-soshi, opening up a literary régime of women, as if flowers of innumerable variety and colouring blossomed all at one time.

(4) Last Heian period. A general survey of the period gives the impression of its being politically transitional from Imperial rule to Shogunate administration. Along with the decline of the Fujiwara family in power, literature also hastened towards decline. And in consequence, towards the early part of the period the literary cult turned from novels to historical works, producing the Eiga-monogatari and Okagami. In the realm of poetry also a new tendency was apparent, which gave birth to such noted poets as Toshinari Fujiwara and Saigyohoshi; and at the same time a scientific criticism of poetry was initiated and prevailed under students like Mototoshi Fujiwara, Toshiyori Minamoto, and Kiyosuké Fujiwara.

(5) General development. The most characteristic feature of the period lies in the movement from impromptu and lyrical poetry to stories and narration which require plots and objectification of things. The instinctive or primitive sentiment of the Manyoshu precedes the more intellectual Kokinshu; and the Shikashu that followed is pervaded by more meditative and philosophical reflections. With reference to prose, the myths and legends

appearing in the Manyoshu and Kiki (short for Kojiki and Nihonshoki) underwent mutation and took the form of narrative tales in the Taketori-monogatari and the Isé-monogatari. This realistic tendency was further augmented by the Utsubo-monogatari, and later produced the famous Genji-monogatari, turning its direction thenceforward toward historical compositions, such as the Eiga-monogatari and the Okagami. To enhance this realistic tendency of the time legends and fairy tales mingling with current realism regained their former influence, producing the Konjaku-monogatari, a fairy tale dealing with supernatural and supersensuous things. Furthermore, amid this abundance of literary composition there are others with characteristic features common to meditative, lyrical literature, namely the Tosa-nikki, Murasaki-shikibu-nikki, Makurano-soshi, Izumi-shikibu-nikki, Tombo-nikki, Tonominé-shosho-monogatari and Sarashina-nikki.

Kamakura Period The period of about 150 years, beginning with the Minamoto-Yoritomo Shogunate government at Kamakura in 1182 and ending in the Kemmu era of 1334, is called the Kamakura period, in the history of our literature. For the first 50 years literature was under the influence of the preceding Heian period; but the one hundred years that followed saw two literary currents sweeping against each other, one at Kyoto, the cultural centre,

¹ Genji-monogatari The author Murasaki-shikibu (975-1031) was born a daughter of Tametoki Fujiwara, a family of the illustrious Fujiwara clan, and served at Court for some years as lady-in-waiting to the Empress Akiko. She is known as Lady Murasaki, but her personal name is not known. It is a large book (nearly 1,900 pages in Arthur Waley's English translation), written in a pure old Japanese, extremely refined and pregnant, with Japanese character, or kana, sentences, and literary critics agree in the opinion that it belongs to the greatest masterpieces of the world novels.

Genji-monogatari means the Tale of Genji, mainly a love story between the hero Genji and several heroines. It is also a most vivid picture of a civilization, nine hundred years ago, probably as refined, though in the central city only, and certainly as colourful, as the world has ever known. The most striking thing about the book is how modern, how universal is its feeling. It reflects the Oriental characteristics in every line and still shows human nature very much the same as the Occidental.

and the other at Kamakura, the pivot of political authority. Although, during the period, there was no literary movement worthy of special mention, yet it created its own literary atmosphere which resulted in the production of numerous so-called war-tales and religious literature.

(1) Kamakura literature. The fact that the emotional and sentimental tendency of earlier ages gradually turned to philosophical meditation during this period explains why the works of the time are generally void of individual touch while being true to type. Buddhist pessimism then dominated social thought. The popularization of the Buddhist religion in this period was the result of the natural growth of that religion on the one hand, and of the reaction of public sentiment against the ceaseless civil wars, on the other.

(2) Representative works. War literature, like the Hogen-monogatari, Heiji-monogatari, Heiké-monogatari and the Gempei-seisuiki, is the most outstanding production of the age. Just as in the preceding period, when literary material was gathered from historical facts, so in the Kamakura period subjects were sought for from the social conditions obtaining when bloodshed, side by side with the simple, artless life of the samurai, completely saddened and subdued public sentiment. With reference to waka, inspired by the advent of well-known poetical works like the Shin-chokusenshu, were born the Zoku-gojuishu and Kinkai-shu. The Shin-kokinshu, another anthology of poetry, shows the highest point that Japanese poetry had so far reached. The Kinkaishu suggests a return to the Manyōshū, while the Shin-chokusenshu gives an impression of having reached the acme of poetical refinement, retrac-

ing its way back to the beauty of simplicity. It is a pity, however, that rival influences between groups of literary men and critics in study of literary theory left the healthy development of literature very much handicapped. Ranking as principal poets of the period were Gotoba-joko, Tsuchimikado-joko, Juntoku-joko, Yoshitsuné, Sadaié, Iyetaka, Jakuran and Sanetomo.

Muromachi Period The Muromachi period is the term applied to the 270 years sandwiched in between the Kamakura and Tokugawa periods, beginning in 1335 when Takauji Ashikaga rebelled against the Emperor Godaigo and terminating in 1603 when Iyeyasu Tokugawa removed the Shogunate government to Yedo.

(1) Muromachi literature. In consequence of civil disturbance in the preceding age, the literary movement of the period was rather stagnant: the Court nobles were deprived of their positions, while the militarists, taking advantage of the disorderly administration of the central government, exercised an unfavourable influence on the natural development of literary talent generally. Nevertheless, even in such helpless social conditions, the period had the literature peculiar to such an age. Despite the troublesome yoke of historical events, there emerged a certain free and simple literary style; hence, instead of the waka, tales, and diaries, that flourished down to the close of the last period, such descriptions of war and historical tales as the Masukagami, Jinnoshotoki, Taiheiki, Yoshitsuneki and Soga-monogatari were born, besides rambling notes like the Tsurezuregusa, with their own characteristic attractions.

(2) New Forms of Literature. It is worthy of special mention that in this chaotic period originated such new literary forms as the *renka*,

yokyoku (*utai*), *kyogen* and *otogisoshi*, which saw full development in the following period. *Tanka* (or *waka*) verse developed and gave birth to a more diminutive mode, the *haikai* (or *haiku*); *kyogen* evolved into *yoruri* and drama; while *otogisoshi* reappeared in the form of novels and plays, all in the period that followed. Herein we notice the beginnings of modern thought, the product of classicism evolving into modernism, and aristocracy into plebeianism. The Muromachi period thus occupies an important position in our literary history, functioning as a bridge that connects the preceding periods with the more illustrious Yedo literature. Another thing worthy of note in this connection is the creation at this time of the Kanazawa Bunko, the Ashikaga-gakko and the Gozan-bungaku, the first two being seats of learning and the last a branch of literature.

Yedo Period The Yedo period begins in 1603 when the Tokugawa Shogunate took up the task of civil government in Yedo, and ends, after 265 years, in 1868, when the Meiji Restoration was accomplished. This forms the most important section in the history of Japanese literature. The Yedo literature succeeded the decadent Muromachi literature and handed on its wealth of achievement to the Meiji period. The remarkable fecundity of this era is to be attributed to various factors, but to none more fundamental than the good government of Iyeyasu Tokugawa, the first Shogun of that line. Realizing the importance of the diffusion of learning for good government, he engaged Confucian scholars, published books, started schools and collected rare literary works. The example thus set by the first Shogun was emulated by succeeding Shoguns, each striving to open up the way for easier access to knowl-

edge and culture both in town and country, until in the Genroku era under the rule of the fourth Shogun, Tsunayoshi, national culture reached its highest stage of development. The Yedo period may be divided into the following four sections:

Centered around Osaka and Kyoto,

1. Period of enlightenment (1603-1680)
2. Period of development (1681-1741)

Yedo as the centre,

3. The period of eastward advance of literature (1741-1791)
4. Period of maturity (1791-1868)

(1) Period of Enlightenment. True to its name, this period, following the establishment of the Tokugawa Shogunate in Yedo, saw the collection and publication of ancient books, and annotations thereof, as well as translations of Chinese literature. It is but natural that during this period nothing worthy of note was produced save as foundation work in preparation for what was to come. From another viewpoint this is the age when our traditionally mystic view of art, and our undue belief in tradition, greatly wanes in influence.

(2) Period of Development. A bird's-eye view of the period gives the impression of a rapid development in popular literature, with Osaka and Kyoto as the centre and the Genroku era as its climax. The origin of this literary movement is traceable to the Mitogaku, which later led to a renaissance of the classics; we see a revival of *haikai* verse under Bashō, the poet; and then the appearance of Chikamatsu's *yoruri*. Each made unfettered development within its own sphere of influence. Towards the close of the period, however, these branches of literature lost popularity, until eventually they could scarcely enjoy public recollection.

(3) Eastward Advance of Literature. This is the period when the so-called Kamigata literature of Kyoto and Osaka, began its movement eastward to establish a new literary movement in the city of Yedo, the seat of the Shogun's government. By this time the popular literature founded by Chikamatsu and Saikaku had declined. Buson became the representative haikai poet of the time. Besides haikai, there came into vogue in Yedo various kinds of short poetry, namely, senryu, witty epigrammatic verse; kyoka, comic verse; and kyobun, nonsense notes. Also in this period the so-called literature for men of the world cropped up, following the publication of the kibyoshi and sharébon.

(4) Period of Maturity. It was in this period that the construction of the main body of Yedo literature was completed. As a result of the encouragement of learning by the Shogun's highest official, Sadanobu Matsudaira, both art and learning made a remarkable advance, producing a number of artists, and authorities on Japanese and Chinese classics. Parallel with this phenomenal development of classics, popular literature resumed its firm grip on the public. Inasmuch, however, as during the latter half of the period the country was completely upset by troubles both from within and without, most of the literary progress was confined to the early part of the period. Nevertheless, this is known as the period when Yedo literature was crowned with full maturity.

What most characterize Yedo literature are its fecundity in kinds, volume of production and sphere of influence. Not only was it prolific but, all branches of art and learning, from the aristocratic classics down to kyoka, senryu, haikai, joruri (gi-

dayu) and popular novels, showed systematic advancement. The social structure in those days could not but react on the taste and sentiment of the people, as is evidenced by the two different literary currents that prevailed throughout the period. Whereas the so-called aristocratic literature, which dominated those days, stood on a foundation of Bushido and Confucianism, the popular literature strove to create the epicurean's world. Each of these tendencies went on cultivating its own field of influence in its own respective class, yet what most aptly represents the characteristic features of Yedo literature is the stronger public appeal of popular literary works. These intellectual diversions of the common people, unlike the traditional, conservative and retrogressive taste of classical literature, are optimistic, and charged with the spirit of uplift and mirth. But the negative policy of the Tokugawa government proved an impeding factor in the healthful growth of popular literature, resulting in a gradual loss of individuality. In this way authorship gradually kept aloof from essential requirements of progressive art; the most glaring example of this deplorable tendency is clearly noticeable in Bakin's works.

Tokyo Period The Tokyo period of Japanese literature begins with the Meiji Restoration of 1868 and still happily continues in our present Showa era. In this short period of sixty-five years the volume of national literature surpasses any other period in Japanese history. The same can be said of its quality.

(1) A general survey of the literary movements of this period reveals the enormous influence exercised by Western literature; all works have thus been enriched in quality and enabled to rank among the most advanced literatures of the

West. The present period can conveniently be subdivided into four sections in the following way, chronological figures being given for form's sake:

1. Period of transition (1868-1886)
2. Period of new literary movement (1887-1901)
3. Period of naturalism (1902-1910)
4. Period of neo-romanticism (1911-)

(1) Period of Transition. During this time the new and old forms and types of literature maintained coexistence, beginning with the earliest years of the Meiji era and terminating about the 12th year, when the *Shosetsu-shinzui* by Shoyo Tsubouchi was published. In the early part of the period, still under the influence of the reserve energy of the preceding Yedo period, the novels of Kanagaki-Robun, the plays of Kawatake-Mokuami, the *Sosho* style haiku all made their influence felt; but the tendency to inertia could not cope with the destructive invasion of European thought and principles; namely, the utilitarianism of Britain and America, the universal love and altruism of Christianity, French liberalism and German nationalism. To be more concrete, in the realm of fiction there appeared, through the influence of such English writers as Lytton and Scott, the *Keikoku-bidan* by Ryukei Yano, the *Kajinno-kigu* by Shiba-Tokaisanshi, *Setchubai* by Tetcho Suehiro, *Ryokusuidan* by Suto Nansui, and *Bunmei-tozenshi* by Meikaku Fujita, which were brought out one after another. All these are political novels. Following these came the *Shosetsu-shinzui* and *Tosei-shoseikatagi*, written by Shoyo Tsubouchi, sign-posts pointing to the new-born movement in national literature. Coincident to the rise of

the new literary movement appeared a new form of poetry with the publication of the *Shintaishisho*. Mingled with these new renaissance phenomena the cultural and literary aesthetics of France and Britain were being introduced through translations.

(2) New Literary Movement. The most outstanding characteristic of the literature of this period is that it completely relinquished Yedo influence and established its own assimilation of the romantic thought then sweeping over Europe and America. Realism, especially psychological delineation, came to be demonstrated by novelists like Shoyo Tsubouchi and Futabatei Hasegawa. They were soon followed by Koyo Osaki, Rohan Koda, Bizan Kawakami, Kyoka Izumi, Ryuro Hirotsu, Chugai Goto, and Ichiyo Higuchi, a woman novelist. These fiction writers dealt with either idealistic, pungent or psychological materials. Especially noteworthy for phenomenal activity in poetry were Toson Shimasaki and Bansui Tsuchii, composers of long poems; and Tekkan Yosano, Saishu Onoé and Kun-en Kaneko in the sphere of tanka verse. Furthermore, there was the Negishi school initiated by Shiki Masaoka, and the Araragi school by Sachio Ito. As to haiku verse, under Shiki Masaoka were composers affiliated with the Nihon school; under Koyo Osaki was founded the Shiginsha school, and with the combined efforts of Seisetsu Sassa, Shiei Fujii and Shachiku O-ono was formulated the *Tsukubakai*. To criticize briefly the works of the period it may be said that though not altogether lacking in a touch of realism, the general impression indicates an ever-growing trend towards romanticism, and in some cases to mere literary "isms."

(3) Period of Naturalism. The

trend of literary movement during the last quarter of the Meiji era was toward the domination of naturalism. This literary current emerged in all forms of literature, and, founding itself on the actual reality of things, tried to grasp the truth of humanity. In this sudden rise of naturalism, much influence was exercised by the works of French, German and Russian novelists. Representative Japanese novels indicative of this new movement include works by Doppo Kunikida, Toson Shimazaki, Katai Tayama, Hakucho Masamuné, Shusei Tokuda, Seika Mayama, Homei Iwano, Seiko Nakamura and Shuko Chikamatsu. Against this realistic trend there appeared in the literary arena Soseki Natsumé, Kyoshi Takahama and Ogai Mori, upholding the transcendent school, commonly called the Kotoha. In the realm of literary criticism Hogetsu Shimamura, Tenkei Hasegawa, Tengen Katakami and Gyofu Soma wielded their pens under the banner of art for life's sake. In the domain of drama, plays depicting social thought came into existence under Ibsen's influence. A similar trend was apparent in general poetry and short verse, represented by Yumei Kamowara's and Kyukin Susukida's symbolic poems, Gyofu Soma's poems in colloquial style, Rofu Miki's free verse and Hakushu Kitahara's prose-poems. In the sphere of short poems, came Bokusui Wakayama, Aika Doki, Takuboku Ishikawa and Yuguré Maeda, exploiting new fields, just as Hekigodo Kato and Seisensui Ogiwara did in the realm of haiku. Literature created in the atmosphere of naturalism is generally too much involved in representation of the ugly side of human life, failing thereby to see the whole of life. It is not unnatural, therefore, that the naturalistic trend of the period did not long enjoy public support

and was obliged to effect a change towards the close of the Meiji era.

(4) Period of Neo-romanticism. We may be doing injustice to modern literary movements by crowding all their complex currents under the one category of neo-romanticism. Yet, it is a fact that after the predominant sway of naturalism, every new branch of literary activity obviously based itself on the reactions of the naturalism of the preceding period. Contrary to the negative, sceptical and pessimistic view of life as evinced by naturalism, neo-romanticism attempts to draw from life with the eye upon reality and humanity, in a positive attitude and a spirit of optimism. At the back of this new movement were the pragmatism of William James, Bergsonian philosophy, Tagore's mysticism, Tolstoy's humanism, and the ideas of several other influential Occidental writers. Neo-romanticism was, in its early days, supported by Rinsen Nakazawa, Yohei Ishizaka, Jiro Abé, Saneatsu Mushakoji and other youthful thinkers. It was at that time that the European War broke out. This greatly stimulated the literary movement, pushing it further into the actual life of the people; eventually it built up such intimate human relations that a drastic renovation was considered unavoidable. This welcomed the rise of many new novelists and playwrights; among whom were Saneatsu Mushakoji, Takeo Arishima, Yoshio Nagayo, all holding fast to their principles; Toyohiko Kagawa and Koyata Ebara initiated the vogue of religious fiction and literature; Naoya Shiga, Ton Satomi, Ryunosuke Akutagawa, Yoshio Toyoshima, Masao Kumé, Haruo Sato and Kan Kikuchi cultivated their own field, in a characteristic style of description. In addition to these fiction writers there

arrived on the scene, Seikichi Fujimori, Mimei Ogawa, Kan Eguchi and Hiroichiro Maedako, as representative socialistic writers; and no small number of novelists producing popular literature. Similarly, in the circle of drama quite a number of new playwrights appeared: of these, Kichizo Nakamura, Yuzo Yamamoto and Jun-ichiro Tanizaki were the most noted. Shoyo Tsubouchi, aforementioned, opened up a new field in pageant and juvenile plays. Another novel phenomenon worthy of note is the powerful growth of scenario writing. With reference to poetry, the long form gradually developed into prose, while folk-songs came to the fore, in Yaso Saijo, Shogo Shiratori, Sakutaro Hagiwara and Ujo Noguchi. The overwhelming vitality of the ever-growing literary movement also lent stimulation to the composition of short poems which, following the revival of Mannyoshu study, tried to assimilate nature while giving birth to new verse composed in colloquial style. As to haiku, there is nothing which requires special mention, save the tendency to re-establish itself in couplet form. Summing up all these facts, we arrive at the conclusion that Japanese literature has made wonderful strides and built up a nation-wide sphere of influence that qualifies it to rank with world literary attainment, without forgetting to maintain its own traditions and thereby to create a new and distinct literature of its own.

Contemporary Tendencies

Some of the more prominent movements in modern Japanese literature passed through so many critical phases after the middle of the Taisho (circa 1916), that they began to suffer decline at the close of the period; and then new movements began to appear.

The First Stage First there is the movement towards proletarian literature, Ohmi Komaki, Yobun Kaneko, Hirabayashi, Aono and Maedako made the first systematic attempt to create literary movement for the proletarian classes, and it was in this circle that such promising writers as Hayama, Kuroshima, and Taiko Hirabayashi were brought up.

The Second Stage Launched by a few younger writers who gathered around Kan Kikuchi, eminent novelist and dramatist, this group promoted new ideas of sensual beauty by abandoning the old conventions and aesthetic notions. Riichi Yokomitsu, disclosed a new realm of style in fiction, being much influenced by the French novelist, Paul Morand.

This literary circle loves fantasy and imagination, thinking much of form and style. Their idea is to stress the outside rather than the inside, the material more than the spiritual. Their refinement of style displays a rapid tempo, and new sensations, which contributed to its popularity among the later generation.

The Third Stage The third stage in our present-day literature is marked by a powerful appeal from the "Literature for Majority." Kan Kikuchi, changed over to this new movement in fiction. In the tenth year of Taisho (1920), "Madam Pearl" was brought out, and this incited the emulation of many other writers.

There are two aspects indicated in the "Literature for Majority." One of these tends mostly to depict modern life struggles in an attractive way; Kikuchi, Kumé, and Kato are included in this circle. Shirai, Maki, Naoki, and Osaragi are mostly concerned in producing historical and biographical fiction, full of fantastical descriptions.

To the Proletarian groups already mentioned can be added another group of novelists like Nakano, Murayama, Kobayashi, Hayashi, Tokunaga, Fujimori, Ineko Kubokawa; and critics like Kurahara and Miyamoto. On the other hand, a type-setter, Choku Tokunaga, produced a clever work, "The Street without the Sun," which was translated into German. The labourmen, Sui and Kanechika, are also beginning to produce able and promising works.

The prominent phenomenon of the literary world in 1933 was the decline of proletarian literature. The decline is due partly to a thorough suppression of the radicalists by the authorities and partly to the general feeling of the people against communism as a disturber of national order in the critical moment of the country, brought about by the Manchurian Incident. The leading periodicals began to keep the young communistic writers at a respectful distance from the January number of the year and the old writers who had their days in the Meiji era were reinstated in their place. The tendency of the year was decidedly reactionary in literature, especially in novels.

A few works of the proletarian writers such as Tokunaga, Fusao Hayashi, and Fujimori attracted the attention of society. But the death

of promising young writers Takiji Kobayashi and Toshiro Sasaki gave a blow to the progress of proletarian literature.

On the other hand, the old distinguished men of letters made valuable contributions. Among them the following names may be recorded: Toson Shimazaki, Junichiro Tanizaki, Haruo Sato, Ton Satomi, Sanetsu Mushakoji, Kan Kikuchi and Masao Kumé.

In the world of drama almost no original work was published, except some translations of Western dramas.

There is hardly any room for a poet to live upon his profession and the present-day Japanese poets live without exception on some other profession and form groups for publishing the *Dojin Zasshi* or magazine for comrades.

The appearance of the "Bungei" a magazine for "pure" literature in 1933 threw a light for the future progress of literature.

In 1934 religious literature began to flourish on the waves of the so-called Renaissance of religion in Japan while magazines of poetry witnessed a greater circulation.

Introduction of French literature represented by Valéry and André Gide and a fresh study of Russian literature, which once was most influential in literary circle of Japan, has given a mode of thought to young writers.

Fine Arts

History

Pre-Asuka Period This period, corresponding to what is called the dark age of art, has nothing specially to describe, although it is perhaps the longest period, extending, as it does, from the age of myths down to about the 7th century, A. D.

According to archaeology the ancient Japanese worked in stone, artifacts such as stone images being used in ancestor worship. These are rough hewn sculptures, representing persons clad in armour, wearing a sword, or other arms, all having been used in burial as guardians of the tomb. It was customary, too,

in ancient times to have a similar primitive engraving, in the form of a ladder or a wheel, made on the coffin; the plain, artless impression thus conveyed is expressive of the simple mode of living in that remote age.

The dwellings were also in very simple style, constructed of barked but unhewn timber. Even in this simplest type of building there were two styles, known as the Izumo and the Isé; which implies that the ancient culture of Japan was dual, derived either from Izumo or Isé. The former style of structure is represented by the Izumo Shrine, Izumo province; and the latter by the great Shrine of Isé, although these now give no more than a vague idea of what must have been the prehistoric architecture of the country.

In addition to the above, there are earthen figures called haniwa which arrest the attention not only of archaeologists but also of artists. According to historical records, the Emperor Suinin, who abdicated in 2 B. C., abhorred the cruel old custom of burying people alive, around the grave of a high personage, certain individuals being selected from among those persons who were under patronage of the deceased in life. At the instance of a retainer, Nomi-no-Sukuné, he caused earthen figures to be interred in place of living persons, when the Empress Hihashimé died; and this was the origin of haniwa. It is believable, however, that the haniwa existed before Suinin's time. The haniwa is, from an artistic point of view, by no means of high value. It is, nevertheless, the only art product of Japan before the importation of Buddhism. Moreover, its value rests on the fact that it is a work produced solely by the Japanese before they had been influenced by Chinese art. Be-

sides, it is invaluable in that it gives some idea of the life of the people of its day. The variety of haniwa may be roughly classified into human figures, birds and animals, architectural structures, household articles and arms.

Asuka Period As has been stated in the preceding section, for some time after the foundation of the Empire by the Emperor Jimmu, there was nothing worthy of mention in the realm of art. The Asuka period covers the reign of the Empress Suiko (592-629), when the Imperial palace was in the province of Yamato. Already, as early as the time of the Emperor Yuryaku, in the middle of the 5th century, a painter named Isura came over from Chosen, with which country Japan then had frequent intercourse, and through which Chinese civilization had been introduced. Later, during the reign of the Emperor Sushun, towards the end of the 6th century, another painter called Hakka came with carpenters to build temples. But it was not until Shibatatto came over from China, in the reign of the Emperor Keitai (507-533), that Buddhism was introduced into Japan, despite the fact that communication had long before continued with Chosen, then called Kudara.

Shibatatto must have been expert in the art of sculpture, for he was the grandfather of Kuratsu-kurino-ori who cast the large image of Buddha now in the Horyuji temple, in the Empress Suiko's time. Nevertheless, it is evident that the country which contributed most toward founding Japan's fine art technique was Kudara.

The development of art in the Suiko régime was really wonderful. Prince Shotoku, a man of wide learning and an enthusiastic devotee of Buddha, spurred on the ever increasing devotion to art. The leading

structures of the period were the Horyuji and Tennoji temples; but those parts of them that have best withstood the wear and tear of time are the two-storied kondo, gate, the five-storied pagoda of the Horyuji temple and the three-storied pagodas of the Horyuji and Horinji temples. No doubt the creative design of the Prince must have been woven into them, but it is nevertheless true that they were modelled after Kudara architecture. It is only from these structures that one can form any idea of what Chinese architecture in those days might have been. The Tamamushi-no-zushi, (a miniature temple) in the Horyuji temple, is valuable not only as a model of ancient architecture but as an example of the structural art and craft of the Suiko régime. The honeysuckle design on the metal fittings of the miniature temple bears close resemblance to similar art motives of Greece. The sculptures of the Suiko period are not all from one source, some coming from China or Chosen, while others are home creations, either from the hands of Chinese sculptors, or the combined efforts of Japanese and naturalized aliens.

The fine art of the Suiko period has thus great depth and width, and at the same time affords invaluable reference for study.

Hakuho Period In the history of Japanese fine art, following the Suiko era comes the Hakuho period which starts in the reign of the Emperor Jomei, terminating in that of the Emperor Mombu (629-697). In the 15th year of the reign of the Empress Suiko the custom of sending a government envoy to China, then called Sui, was established, followed by increased intercourse between the two countries. Later, in the 2nd year of the Emperor Jomei's administration, the first envoy was dispatched to

Tang, as China was then called. By the establishment of this custom artistic products of China came direct to Japan instead of through the Korean Peninsula, as they had done up to that time. Moreover, the Taika Reformation, by which the political system of China came to be closely followed from the time of the Emperor Kotoku, contributed much toward developing Hakuho art.

(1) **Painting.** One of the most outstanding facts in the art of this period is that paintings were imported from the Continent, and Buddhist pictures were painted by priests from China and India. The mural paintings of the kondo of the Horyuji temple testify to this; the fresco work of the temple is further advanced in technique than that of India, and is prized as the leading example of mural painting in any extant wooden building. This and other examples of imported pictorial art technique during the period eloquently speaks of the inflow from Indian sources into Oriental countries.

(2) **Bronze.** The most representative work of the period is the big bronze images of Buddha and two disciples at the Yakushiji temple at Nara. Upon their pedestals are engraved a hoshokumon design in lieu of honeysuckle which by that time had ceased to command preference. The hoshokumon design is the art of inlaying or setting jewels in necklaces, armlets, pedestals, and halos around the heads of images. To return to the Yakushiji temple's three images, it is interesting to notice that, side by side with the hoshokumon, there is an engraving of arabesque design in grapes. This grape pattern has also its origin to the west of India, through which it came to China when that country was called Han, and prospered in the age of Tang.

(3) **Architecture.** The only mod-

el of architecture constructed in this period and still extant is the three-storied pagoda of the Yakushiji temple at Nara. Another example of the best architectural technique of the period is to be seen at the Nara Imperial Museum where models of five-storied pagodas of the times are preserved.

Tempyo Period The Nara period (707-780) is called the Tempyo Era in the history of Japanese fine art. Through the zealous efforts of the Emperor Shomu and Empress Komyo, who were unrivalled in piety, Buddhist doctrine was thoroughly demonstrated in the capital of Nara, with a consequent development of Buddhist fine art. It was veritably the golden age of fine art in religion. The casting of the Daibutsu (great image of Buddha) at the Todaiji temple and the construction of the temple itself may be pointed

out as the greatest examples of art within the period. The Daibutsu has several times suffered from fire, which made imperative the repair of the image; and, in consequence, only the petals of the lotus blossom upon which the image sits retain traces of contemporary art motives. On the surface of these petals are engraved scenes from the sacred world of Buddha, which, from the view point of technique in painting are decidedly excellent. In front of the building occupied by the colossal statue of Buddha there is a bronze-lantern which minutely exemplifies characteristics of the Tempyo period. The remains representing the sculptures of the period include several images in the same temple.

(1) **Shoso-in Museum.**¹ After the demise of the Emperor Shomu all the objects of art and craft he possessed were donated to the Todaiji temple

1 The Shoso-in is located in the precinct of the Todaiji temple at Nara. The building is a typical wooden storehouse of old Japanese Ase-Kura style. No metal nails are used and no walls of earth. The whole building consists of three separate sections which have no windows but one entrance door for each. In the interior each section is two storied with an attic. The dimensions of the building are approximately 108 feet to 30 feet, the height from the ground to the roof top being 29 feet.

Formerly the treasures were kept free from light, untouched for a long period of years. Since 1872 the doors are open annually for airing for two weeks, from November 1st to 14th. All the precious objects are kept in glass cases. In the northern section there are kept treasures of the Imperial House before and at the time of the Emperor Shomu, mirrors, desks, musical instruments, screens, medicine, etc. The middle section contains arms and armour, cases, glass and lacquer wares. The southern section largely contains religious antiques of the Todaiji temple.

The Shoso-in apparently existed in the precinct of the Todaiji temple before 756 A.D. when the Empress Komyo, widow of the Emperor Shomu dedicated to the Variocana Buddha or Daibutsu the Imperial treasures as a memorial of the deceased. Weather has beaten it of course. Battles went on around the sacred ground and the Shoso-in itself was once stricken by a thunderbolt. But the wooden storehouse has been mysteriously preserved through 1,279 years, with partial repairs. Most of its contents listed in the "Todaiji Kemmotsu Cho" (catalogue of donation), dated June 21, 8th year of Tempyoohohō (756 A.D.), have been kept unharmed solely due to the loyalty of the officials and people to the Imperial House to whom the Shoso-in belongs.

The most important treasures are the "Kemmotsu Cho" (catalogue of donation), letters of the Emperor Shomu, essays written by the Empress Komyo, a long sword of the Emperor Shomu, Kin-gin Hyomon Kin (gold and silver ornamented Oriental harp), Shitan Genkwan (a stringed instrument), Gogen Biwa (a five stringed lute), Mokuga Shitan Kikyoku (a sandalwood checker board ornamented with wooden mosaic), Toriké Tachionna Ryobu (a screen with a female figure who wears feathered garments), Urushi Ko Hei (a lacquered carafe), Yōraku or diadems and fragments of the crowns of the Emperor Shomu and Empress Komyo, Gingaku Men (masks used in an old performance "gigaku"), bronze mirrors, swords and other arms and armor; Imperial edict engraved on a bronze plate, glass cup, lacquered chest painted with gold and silver dust, gold and silver ornamented leather box, hangings with figures of Buddhas, Mitta Ebon (a painted tray), silver bottle, and censor with a handle.

Priceless documents of Tempyo period are stored in Shoso-in, 779 in all. They include census registers, maps, official documents, I.O.U. and books, and present indispensable materials for the study of official and civil life 11 centuries ago.

For protection, inspection of the treasures of the Shoso-in is not permitted to the general public, but the pictures of all treasures are published in book form named "Tōyō Zuko," and all the documents may be found in the "Dai Nippon Ko Mon Jo" (Japan's old documents).

by the Empress Komyo. Nearly all were treasured in the Shoso-in Art Museum of Nara, and have safely been handed down to the present. Perfect preservation of art products from so remote an age could be expected only in such a country as Japan. The national treasures of the Shoso-in not only abound in rare paintings but also in many objects of industrial art, such as textiles, lacquer-ware as well as gold and silver ware, porcelain and writing utensils. Especially noteworthy are the Tang masterpieces from the Imperial household of China. In addition to those of Japanese and Chinese production, examples from the East Roman Empire, Persia, India and countries west of China are found in the museum. Thus the Shoso-in Art Museum is representative of the art products covering both East and West from even before the 7th century.

(2) Ganjinwajo. A priest known as Ganjinwajo in Japan with a number of disciples, visited Nara, then capital of the country, not long after the completion of the Daibutsu. He and his followers had drifted ashore in the southern part of Kyushu. These foreigners left an indelible impression on the history of Japanese art, because they belonged to a group of leading artists of the Tang period of China. Their skill in art was woven into the art of the Tempyo period, not only in the fields of painting and sculpture, but also in architecture. That art products from their hands must have been as great in number as in variety is evidenced by the art treasures of the Toshodaiji temple in Yamato province. The image of Buddha enshrined in that temple exhaustively represent the characteristics of the art of the Tang dynasty. Besides these there are several wood-engravings in which, it is surmised, the

sculptures of the succeeding period had its origin. Among the foreigners were persons of other than Chinese nationality. Gumporiki, as he was called in Japan, was an expert sculptor, from the country of Kunlunkuo the exact location of which is still a question. Judging by the fact that the Ganjinwajo party included people from the west of China, it is but a matter of course that the engravings at the Toshodaiji temple resemble the fresco art of countries west of China. From what remains, there is sufficient reason to believe that some of the descendants of the Persians driven out of the country by the Mohammedans, arrived in Japan with the party.

All kinds of cultural forms and products were imported during this period. These the Japanese could digest and work with a skill not inferior to that of the foreigners. A general impression of the Tempyo period, however, is that there was too much copying of Chinese art and so, too little originality. This one-sided trend of evolution gave rise to a movement for a revival of art genuinely Japanese in origin.

Konin Period The Konin period (782-888) begins about the time that the Emperor Kammu transferred the capital from Nara to Kyoto, lasting till the reign of the Emperor Konin. The outstanding characteristic of the Konin period lies in the phenomenal rise of native art at the hands of noted priests. Kobo-daishi and Chisho-daishi were priest-sages of refined artistic endowment. Quite a number of pictures and sculptures of the period are from their hands. The Toji, Koyasan and Miidera temples treasure works of theirs. As one of the prominent painters of the time we may name Kudara Kawanari on whom there are a number of books, but none giving reliable historical information

about him. He must have been among those artists summoned by the Emperor Saga to paint the pictures of landscape and rough seas seen on the walls and paper sliding-screens of the Seiryoden Hall of the palace. The custom of painting landscapes and characters on screens of the Imperial palace was thereafter developed setting a fashion in drawings which please the eye. In those days screens were popular, and this helped to popularize landscape painting.

The typical sculptures of the period are such sacred images as are seen at the Shingoji temple, Kyoto, known as the Shingoji style sculpture, and others at the Murofuji temple in Yamato province, known as the Murofu style. The rise of the art of engraving images of Japanese gods may be mentioned as a memorable event of the age.

As regards architecture the period shows very few examples that now remain, the representative structures being the main hall and five-storied pagoda of the Murofuji temple. The Heian Shrine constructed in Kyoto, closely modelled after the structures of the age under review, offers excellent material for the study of Konin architecture.

Fujiwara Period The Fujiwara period (889-1186) covers the three hundred years between the reign of the Emperor Uda and that of the Emperor Antoku. At the beginning of the period the Emperor Uda, at the suggestion of Michizane Sugawara, discontinued the custom of dispatching envoys to China, thereby cutting off facility of communications with the continent. During the consequent isolation Japanese art was afforded a chance to cultivate its native genius and its own field of influence. The continental art that had been freely absorbed and adopted up to that time commenced to produce

national characteristics as is demonstrated by yamatoye work in the sphere of painting.

(1) Painting. Koseno-Kanaoka was probably the most skilled landscape painter of the period. His reputation was such that the horse he painted on a paper sliding-door was credited with getting out of the screen at night to feed on bush clover in the yard. Koseno-Hirotsuka, a well-known painter, was one of his descendants. As skilled painters of that age we may mention also Motomitsu Fujiwara, Mitsunaga Fujiwara, Takayoshi Fujiwara and his son Takachika, besides Toba-sojo and Kakuyu, all of whom specialized in painting yamatoye or native style, which had developed from a school in the Tang period of China, called Karaye. Japanese paper-doors and folding screens were what they selected to paint on.

Besides yamatoye many other schools of Japanese style paintings were started, such as the kamiye, utaye, ashideye, and okoye. The last mentioned was a school of comic genius whose premier artist was Toba-sojo, a noted priest of the day. Three albums of comic pictures from his brush are treasured at the Kozanji temple. Another important arrival was the yemakimono (paper-scroll) which later developed until reaching its golden age in the Kamakura period. The aforementioned three artists were the most popular masters of the age. Some of their work still survives.

Consequent upon the ever inculcated Buddhist precepts, Buddhist paintings flourished, so much so that specialists in that art were always in evidence. In this religious sphere of painting also national characterization was effected to no meagre extent. The most outstanding of the Japanized Buddhist schools was named the Eshinfu, started by Eshin-

sodzu, a priest, first affiliated with the Tendai sect of Buddhism, but later preached the doctrines of the Jodo sect. Probably this school was second to none at that time in Japanization of technique. Tameto, commonly called Great Takuma, who did the fresco work of the Ho-o-do at Uji, belonged to the Takuma family, producing accomplished painters of the time. The most representative Buddhist paintings are treasured at the Hokkeji, Yamashiro Chohoji, Yamato Horinji, Koyasan, the Toji temples and the Imperial Art Museum of Tokyo.

(2) Sculpture. Remarkable advancement in the realm of Buddhist sculpture was revealed in consequence of effective doctrinal propaganda by the Tendai and Shingon sects. Wood-engraving stood unrivalled, but that art, unlike the same mode of the previous age, was mainly in what is called parquetry work. Sculptors collaborated, and in most cases images were constructed in separate parts, each carved by a different artist, under an accomplished specialist. It is interesting to note that even in the carving of hands, feet, head and body there was a division of labour into smaller parts, and each section was put in charge of one sculptor. When completed the several parts were put together, painted with lacquer and gilded.

Guilds of sculptors, like the Shichijo-bussho, Shichijo-omiya-bussho, Rokujo-marikoji-bussho and Sanjo-bussho, established studios one after another. Especially noteworthy in this field was the Shichijo-bussho started by the famous artist Jocho who was practically supreme in the realm of sculpture in the Fujiwara period. The peculiarity of the Jocho school of his creation lies in its soft, mild features with smooth, elegant textile folds or plaits, which characterize the most glorious period

of Fujiwara art. The images of Amitabha enshrined at the Ho-o-do, Hokaiji, Saikyoji and Chusonji temples are all representative works of the Fujiwara period.

(3) Architecture. Along with the development of Japanese style painting a new Japanese architecture, as seen in what they call the Shinden-zukuri (main building of a peer's residence), prevailed. This style gradually encroached on the domain of sacred structures, as is well exemplified in the Ho-o-do and Konjikido, above cited.

Within three hundred years after the country's adoption of a seclusion policy, an indigenous style characteristic of the Yamato race made the fullest possible development in all branches of art.

Kamakura Period Between the Emperor Gotoba and Emperor Godaigo the Kamakura Shogunate assumed the reins of government. The Kamakura period (1187-1340) of political history is at the same time that of Japanese art. During those 150 years traditional Japanese sentiments and thought developed vigorously, against the aristocratic culture which had gained influence in the previous period. Such a turn of cultural development could not but react on art; the anti-traditional spirit of the age began to tell on artistic creation. Not only from within but also from without the country a radical change was introduced, because in those days the Yuan period succeeded the Sung in China; and its highly favoured cultural attainments came dashing to the Japanese shores. The two movements, of foreign and domestic origin, combined to lay a foundation for modern fine art which started and developed in and after the Muromachi period.

(1) Painting. Continued civil wars, military administration, and

war literature, all contributed to the voluminous production of yemakimono (picture-scrolls) based on themes from battle scenes. Another kind of yemakimono worthy of special mention was painted for the purpose of propagating the doctrines of newly risen sects of Buddhism, such as the Zen and Jodo. This pictorial demonstration of religious doctrines proved quite effective; for, by depicting the life and work of founders, a more direct appeal was made to prospective converts. For the same reason the yemakimono came to serve also as a means to propagate knowledge of the origin and development of a shrine. Quite a number of picture-scrolls of the period still remain in perfect condition, those reckoned among greater works being the History of the Kitano Tenjin Shrine, Murasaki-shikibu-nikki, Sanjurokkasen, Moko-shurai-ekotoba, Honen-shonin-gyojo-edzu. The last mentioned is a yemakimono depicting the personal history of Honen-shonin, the noted priest who founded the Jodo sect of Buddhism. Among scores of yemakimono painters, Nobuzane Fujiwara, Keion Sumiyoshi, En-i, Takakané Takashina and Yoshimitsu Tosa were the most popular. A further noteworthy event of the period was the rise of portrait painting. Generally speaking, until this period there was no other method for reproducing figures except by sculpture. The term for portrait was niseyé. But toward the end of this period a new mode appeared. The technique of portrait painting made rapid advance from the time of Takanobu Fujiwara, Tairano-Shigemori, Minamoto-Yoritomo whose works are treasured at the Shingoji temple, all rare masterpieces.

With reference to Buddhistic painting, the aforementioned Takuma school gradually improved in tech-

nique; and with the appearance of Shoga, a descendant of the Takumas, the Takuma school of Buddhist painting was founded, drawing a clear line between the old and new delineations.

(2) Sculpture. The Kamakura period was also a fecund age in the direction of sculpture. Compared with the work of the preceding period it appeals with more virility. The Shichijo-bussho, the most important sculptors' association or guild, which had been making steady progress, produced a group of consummate artists in Koei, Unkei, Jokaku, Kwaikai, Tankei, Jokei, Koben and Kosho, all contemporaries. Among them the most skilled were Unkei, Tankei and Kwaikai, who are recognized as the best sculptors since the time of Jocho. Whereas Unkei and Tankei excelled in producing the expression of passion, as in statues of nio (Deva kings), Kwaikai specialized in gentle, elegant figures, like those from the chisel of Jocho.

(3) Industrial Art. Lacquer-ware technique, too, made a remarkable advance. The art of engraving also progressed, especially with the appearance of the Kamakura-bori (Kamakura style of engraving). Technique in metal work, also saw much development, inheriting the characteristic virtues of the Fujiwara period. Up to that time native ceramic art was in so primitive a stage that only unglazed ware could be manufactured. After Kato Shirozaemon-Kagehisa returned from Sung, marked progress was made in this field, and fine chinaware became a home product.

(4) Architecture. The mansions of nobles had been built in the Shinden-zukuri style, but during the Kamakura period the Buké-zukuri style of architecture started and soon dominated. This is a simple, plain style with an unusual number

of sliding-doors to let in light. Though this style of structure has gone out long ago, one can get an idea of it through various yemakimono in which this style of architecture is represented. After the advent of the Zen sect of Buddhism under Eisai-zenshi from China, then called Sung, and the establishment of the Kenninji temple at Kyoto, Zen style of architecture came to attract attention. A good example of this style, still intact, is the Enkakuji temple at Kamakura.

Muromachi Period Succeeding the Kamakura age came the Muromachi period (1341-1580), which, after the two centuries and a half of civil strife, ended with the downfall of the Ashikaga Shogunate. In China the civil disturbances of the late Yuan dynasty had been brought under control by the rise of the Mings, resulting in the advent of the golden age of Ming culture, which exercised some influence on Japan.

(1) **Painting.** As was customary whenever Chinese culture attained its zenith, communication between the two countries, which had been on the wane, revived again, resulting in the gradual decline of yemakimono, portrait and Buddhist painting, handed down from the preceding Kamakura period, domestic art unable to cope with the powerful influence of Sung-Yuan style of painting in China. Early in this period there were not a few yemakimono worthy of note such as the Gosannen-gunki by Korehisa Fujiwara and the Yuzu-nembutsu-engi, joint work of Hiroyuki Tosa, Yuki-hidé Kasuga, Mitsukuni Fujiwara, Ryuko Awataguchi, Jakusai Rokkaku and Eishun Hogan. The latter still remains in the form of a coloured wood-engraving, perhaps the most widely known as our oldest example of this art.

Typical portrait work of the period is that of the Emperor Godaigo in the Daitokuji temple, Kyoto, and of Yoshimochi Ashikaga, at the Shingoji temple. Far more characteristic of the age, however, are the portraits of Zen priests or so-called "Chinso." The most typical chinso is, perhaps, the portrait of Seichi-kokushi, painted by Mincho, preserved in the Tofukuji temple. Strictly speaking, chinso has more similarity to the Sung-Yuan style than to the Tosa school of portraits.

Buddhist painting of the Muromachi period may roughly be adjudged stationary. Copying of old works seemed to have been the only task attracting artists, among whom a priest named Myotaku-zenshi was known for skill in painting Acala pieces; the principal works of this priest-painter are treasures of the Imperial Art Museum. The most distinguished pictorial artist throughout the period, however, was Mincho. Among his works handed down to the present are the portrait of Seichi-kokushi, above-mentioned, Gohyakurakan (five hundred disciples of Buddha) in the Tofukuji temple, and Dainehanzu, known as the largest painting in the country. In his brush work are ample traces of the style of the Sung-Yuan period in China; and he was, moreover, the leading painter of the age by whose art the Continental technique, introduced with the Zen sect in the Kamakura period, was digested, assimilated and consummated.

Special mention should be made of the advent of the Sung-Ming style in yamatoyé work, enhancing the traditional style of that art. This new movement was no doubt made possible by the Ashikaga policy of encouraging trade with China, then called Ming. In consequence, numerous Chinese works of art continued to be imported, greatly

stimulating the domestic art world. Among various merits and demerits then inherited from the Continent, kakemono (hanging pictures) and a more advanced technique in painting flowers and birds were perhaps the most outstanding. It is also a fact worthy of special mention that the Sung-Yuan style of sumiyé painting (black and white) became popular throughout Japan, under artists like Jasoku Soga, Sotan Oguri, Shinno Nakano, Sesshu and Masanobu Kano. These five sumiyé painters were talented pupils of Shubun who enjoyed the confidence of the Shogun and occupied an important position under the Shogunate government as a painter.

(2) **Sculpture.** Images of Buddha continued to be supplied by the Shichijo-bussho of which mention has already been made. But these products gradually lost their artistic value. The aforementioned Shubun was also a good sculptor. It is said of his skill that the great wooden statue, 40 feet high, of Amitabha, enshrined in the Unkyoji temple, was originally the work of a Nara sculptor, but was retouched by Shubun's chisel and improved.

(3) **Industrial Art.** In this epoch the development shown in industrial art was mainly due to the whimsical enthusiasm of the Shogun. Chanoyu (tea ceremony), a ceremonial etiquette genuinely Japanese, gave rapid rise to various branches of industrial art especially in fine porcelain, the climax of which was reached during the latter part of the period. This progress was not only in works of manual art like tea-cups, trays and so on, but in kakemono and tokonoma (alcove) furnishings of the tea-room, and the building itself, all of which are required for the full ceremony of tea-serving. Most of the teacups used for chanoyu in those days were of Chinese

make, or imports from the South Seas.

(4) **Architecture.** The Zen style of architecture greatly improved. This combined with the cult of chanoyu, lent impetus to the construction of simple but tasteful habitations and temples, with gardens and arbours harmonious to the main building, well represented by the Kinkakuji and Ginkakuji temples in Kyoto.

Momoyama Period The thirty years that followed is termed the Momoyama period. During this comparatively short interval civil disturbances stirred up the whole country under the governments of Nobunaga Oda and Hideyoshi Toyotomi, acting as military dictators.

(1) **Painting.** Eitoku Kano was perhaps the greatest painter of the period. Nearly all the mural pictures in the castles of Azuchi and Osaka and the mansion at Shuraku are attributed to the brush of this famous artist. The peculiarity of the painting of the period lies in its grand scale and gorgeous, bright colouring. This is especially true of Eitoku Kano's work. Another noted landscape and ukiyoyé painter was Sanraku Kano; in the Sesshu school of sumiyé were Kogan Unkoku and Tohaku Hasegawa; the Tosa school had Mitsuyoshi who succeeded to the Tosa school which had by that time been reduced to a school only in name.

(2) **Sculpture.** The most striking feature of the Momoyama sculpture is its clever adaptation to decoration of architecture. Besides Hidari-Jingoro, whose fame as an accomplished sculptor and engraver still enjoys nation-wide popularity, there were skilled artists like Yuzaemon Miyanishi and Matayemon Okabé. As in the Muromachi period, the art of carving "No" masks came into vogue.

(3) Industrial Art. Metal work experienced remarkable improvement. The sword-guard artists evolved novel designs. Also in the technique of bronze casting no insignificant progress was made by casters like Yashichiro Hagoya, Dojin Nishimura, Yojiro Tsujido, Yayemon Nagoya and Echizen-no-Shojosansho. The current of the age could not but influence the art of raised lacquer, handed down from previous periods; now works on large scale, fit for the decorative purposes of architecture, began to dominate the situation. The Kannon-do of Chikubu-shima and the Kodaiji temple of Kyoto best represent the technique of this period.

Ceramics also were greatly enhanced in technique. Impelled by the nation-wide use of chinaware, due to the popularization of chanoyu, imported articles grew insufficient. As a natural consequence, home industry in this direction was greatly stimulated, resulting in Nagasaké Chojiro's invention of the rakuyaki style and Rokubei Mikazuki's bizen-yaki style of ceramic ware. In the realm of textile art, what is to be noted is that in the Tensho era (1573) a new technique in weaving was introduced from Ming, China, and reached Nishijin, Kyoto, where it appeared in the form of Yamatonishiki, ito-nishiki, karaori-nishiki, kinran (gold brocade), donsū (satin damask), rinzu, and so on.

In conclusion it may be said of the art of the Momoyama period that, while developing such gorgeous and imposing structures as the Shurakutei and Momoyama Castle, it popularized the exclusive, austere and polite art of chanoyu. Thus two diametrically opposed arts developed all through the Momoyama period.

Yedo Period The Yedo period (1603-1867) started with the Tokugawa

Shogunate in Tokyo, then called Yedo, and terminated with the downfall of that government just before the Meiji Restoration. During the 260 years of the Tokugawa Shogunate Yedo flourished, cultivating its own culture as against that of Kyoto, giving the country two centres of culture, one in the east and one in the west.

In the early Yedo period communication with countries beyond the sea opened and foreign trade was thereby greatly stimulated. Whereas Japan had hitherto had little or no dealing with Europeans, save Spaniards and Portuguese, Hollanders and Britons now began to come to her shores for commercial purposes. Relations with neighbouring countries also increased in intimacy, due to improved communication facilities. Nevertheless, the people were not satisfied with official passivity but extended their trade with Siam, Cochin, Tonking, Luzon. Furthermore, Iyeyasu Tokugawa, the first Shogun of that line, even attempted to trade with Spain and Mexico, sending envoys for that purpose. By this improved intercourse with foreign countries traditional Japanese art was greatly influenced. In the Kan-*ei* era (1644), Yemosaku Yamada first produced pictures in Western style painting. Fortunately or unfortunately, however, the third Shogun, Iyemitsu, with a view to stamping out Roman Catholicism pursued and imposed an isolation policy by prohibiting the entrance of all foreigners except Hollanders and Chinese. Under this high-handed policy the infiltration of foreign influence was almost completely checked, and domestic genius again came into its own, developing another golden age of fine art.

(1) Painting. The Kanos, who had flourished since the Muromachi period, produced skilled artists like

Yasunobu, Naonobu, Tsunenobu and Morinobu, all of whom had the honour of serving the Shogunate as official painters. But this special favour proved a cause of decline in the Kano school later. Among the foregoing four principal members of the Kano school, the last mentioned, Morinobu, was the most excellent, known by the pen-name of Tan-yu. Tsunenobu ranks next in artistic skill. The Tosa school, which had been waning in influence, recovered its laurels in the days of Mitsuoki who was promoted to the Emperor's service. In those days the Sumiyoshi school originated from the Tosa, and became firmly established under Jokei, younger brother of Mitsunori. Toward the close of this period an attempt was made for the revival of yamatoyé, by Totsugon Tanaka, Ikkei Ukita and Tametaka Okada, among whom Tametaka Okada was pre-eminent. The yamatoyé of the Meiji and Taisho eras started from their work. Yosai Kikuchi is another painter of the group.

One of the greatest painters of the age was Korin Ogata whose art may be traced back to that of Sotatsu school which was originally a style of painting for decorative purposes. Under Korin were Kanzan, Shiko Watanabé and Hoichi Sakai. Their work surprised foreign eyes as a revelation of the peculiar excellence of Japanese art. Being used for decoration the work of the Kōetsu school had close relations with textile, dying, ceramic and other technical industries of the time.

Ukiyoé, which for originality is one of the salient art products of the Yedo period, developed hand in hand with popular drama and popular literature. It is said that the Ukiyoé or *genré* style of picture, was started by Iwasa-Matabéi-shōi; certainly he and Choshun Miyagawa,

Shunso Katsukawa, Utamaro Kitagawa, Kiyonaga Torii, and Hokusai Katsushika are known as the most accomplished ukiyoé painters. Of ukiyoé there are two kinds, namely, hand-painting and colour-print. The latter form was most characteristic of the age. The black and white prints, started by Moronobu Hishikawa, were forerunners of beniyé, which is a coloured print made on coloured wood blocks, an engraved block for each colour. Before this printing process was adopted for mass production, brushes were used for colouring. At first two colours, red and green, were used for printing from engraved blocks, but Harunobu Suzuki later invented an improved process of printing in five colours, starting the nishikiyé which met with popular favour as time went on. Later, in the hands of masters like Utamaro and Hokusai, the process of colour-printing from wood-engravings saw marked improvement, until the finished pieces far surpassed the original hand-painted work in artistic value. Landscape prints in ukiyoé style were started by the famous Hiroshigé Ando. Some people may look down upon ukiyoé as vulgar art; but nevertheless it was art most true to the life of the Yedo period. In later years it was not seldom that European collectors of works of fine art were found ready to pay even several thousand yen for a sheet of mere colour-print. This was not without reason.

Special mention should also be made of the arrival of Ifuchieu, a painter of the Ching dynasty in China; for it was through this artist that the Nan-Sung literary school of painting was first introduced into this country. In the early days of the Nan-Sung style of painting, Nankai Gion, Hyakusen Sakaki, Taiga Ikeno and Buson Yosano were

its most excellent exponents. Later, with the rise of Chinese classics, the Nan-Sung literary school made great strides and its influence practically dominated the country, producing such noted names as Unsen Kushiro, Daizen Hirose, Kaiséki Noro, Chikuden Tanomura, Kazan Watanabé, Aigai Takaku, Baikan Sugai, Hanka Okada, Chikudo Nakabayashi and Baiitsu Yamamoto, among whom Chikuden Tanomura was reputed the most excellent. Kazan Watanabé and Baiitsu Yamamoto enjoyed popular favour next to Chikuden.

Buncho Tani became the most brilliant artist of the age, both in Pei-Sung and Nan-Sung styles of painting; he was a pupil of Kangen Kitayama who learned technique from Fei Hun-yuan and Chu Ko-chin who entered Japan during the Ching dynasty of China. There were some other very important painters, too, namely, Rikyo Yanagisawa, Jakuchu Ito, Sosen Mori and Ganku. Especially popular were the pictures of domestic fowls by Jakuchu, and monkeys by Sosen.

An important event, moreover, was the appearance of the Maruyama school with Okyo Maruyama as its founder. Okyo's style was derived mainly from Ming and Ching paintings, and developed into what resembled sketches. His pupil, Goshun Matsumura, established the Shijo school, which in later years grew to be as popular as the Maruyama school. By these two styles the Kyoto world of pictorial art was dominated.

(2) Architecture. The Momoyama architecture of the preceding period developed into a far more elaborate style, and with more elegance. This elaborate rococo style of Yédo architecture had less value as fine art than as mere decoration. Examples of the architecture of this period are found in the celebrated

buildings at Nikko, which, as everybody can recognize, are more worthy to be called an excellent decoration than an excellent example of fine art.

(3) Sculpture. Although there is not much to be said about the sculpture of this period there are yet two outstanding instances that exemplify the use of Chinese carving; there are the Mampukuji temple at Uji, by a Chinese, Ingenzen-shi, and the art of Zen-shu-chokoku (Zen architecture), by a Buddhist sculptor, Fan Ton-sheng, from Foo-choo, China.

(4) Industrial Art. Both manual and industrial art greatly advanced in technique, and metal, textile, dyeing, lacquer and ceramic industries flourished like all sorts and varieties of flowers. A Chinese introduced from Ming the process of decorating ceramics with brilliant colours or in gold or silver. And through the efforts of Kakiemon Sakai and others the famous Arita and Imari potteries were founded. In this field of fine art the name of Jinsai Nonomura should be remembered, for he occupied the highest position. Cloisonné ware also experienced a remarkable promotion in technique, along with other branches of industrial art.

The time arrived at last when the people awoke from their age-long sleep, with all doors closed to foreigners. Besides Hollanders, came Russians, Britons, Frenchmen and Americans, in spite of the national agitation to keep the country shut against foreign intercourse. Already from Holland Western learning and art had percolated in through Nagasaki. Oil painting in Western style was attempted by Gennai Hiraga. The new style of painting spread far into the country even to Akita prefecture, and reached consummation under Kokan Shiba later. Thus towards the close of the Yédo period

the urge of Western art reached Japanese shores in great force.

Meiji Art The modern age in the history of Japanese fine art started over 60 years ago when the Emperor Meiji established Imperial government in Tokyo. The Oriental fine art, which first sprouted in Mesopotamia, made eastward advance blending with Indian and Chinese art until it at last reached the Far East and established its central influence in Japan.

(1) Architecture. With the Meiji Restoration came a turning point in our history; the country was opened to free foreign intercourse, followed by the inflow of European culture like a flood. Western civilization soon began to exercise an overwhelming influence all over the country, and eventually everything foreign met with enthusiastic popular favour. This phenomenal change in the country directly influenced architecture; and European-style of structures sprang up here and there. Even in the Japanese style of building were mixed Western modes of architecture. These radical changes in the architectural world of Japan had no small influence on other branches of our fine art.

(2) Japanese Painting. In the early part of the period Nan-Sung literary painting still prevailed, supported by Kyou Hodachi, Koseki Nakanishi, Shoka Watanabé, Gokaku Hirano, Rozan Yasuda, Soun Tasaki, Yukoku Noguchi, Aizan Taniguchi, Watei Taki, Chokunyu Tanomura, Seiko Okumura, Kampo Araki, Shohin Noguchi and others.

It so happened that in the 11th year of Meiji a certain American professor in the chair of philosophy at the Tokyo Imperial University, being charmed with Japanese paintings such as the ukiyoyé and Kano and Tosa work, proposed to start a movement for the preservation of

these schools of art. In conformity with Professor Fenollosa's suggestion, the Government, in the 21st year of Meiji, established the Tokyo Fine Art Academy. As a result of the movement, the old schools of Japanese style of painting revived and a number of painters regained influence, of whom the more distinguished were Hogaï Kano and Gaho Hashimoto of the Kano school; Kangyo Morizumi, Kangi Yamana, Mitaté Kawabé, Fuko Matsumoto of the Tosa school; Zeshin Shibata, Kansai Mori, Bairei Yukino, Gyokusho Kawabata, Keinen Imao of the Maruyama school; Chikudo of the Kishi school; Honen Tsukioka and Gekko Ogata of the ukiyoyé school.

In the 40th year of Meiji the first art exhibition was opened by the Education Office; and since that time it has been held once every year, greatly stimulating the resurrection of traditional Japanese art. The Tokyo circle of Japanese style painters was represented by Taikan Yokoyama, Kanzan Shimomura, Kogyo Terasaki, Gyokudo Kawai, Tomoné Kobori, Jippo Araki, Suiun Komuro, Somei Yuki, Kiyokata Kaburagi, Reika Yoshikawa, Eikyu Matsuoka, Hyakusui Hirafuku and Keigetsu Matsubayashi; while in the Kyoto circle were well-known painters like Kokyo Taniguchi, Hobun Kikuchi, Seiho Takeuchi, Shunkyo Yamamoto, Kako Toji, Keigetsu Kikuchi and Suisho Nishiyama. All of these east-and-west leaders displayed great activity in nurturing the Japanese style of painting as we see it today.

(3) Western Painting. Towards the end of the Yédo era the foundation of the Occidental style in painting had already been laid by Kokan Shiba and Dezen Aodo; and now came Togai Kawakami, Yuichi Takahashi, Horyu Goseda, Hosui Yamamoto, Shinkuro Kunisawa, Chu Asai,