

The total number of stars in this system, the Milky Way galaxy, is about 100 billion. Out in distant space beyond its limits, as far as any instruments have yet probed, are millions of other galaxies. These are other stellar systems similar to our Milky Way.

Celestial Timetable for September

SEPT. EDT		
1	9:00 p.m.	Mercury farthest west of sun
2	3:28 p.m.	Moon in first quarter
	8:50 p.m.	Algol (variable star in Perseus) at minimum brightness
6	noon	Saturn at opposition (opposite sun)
	midnight	Moon farthest, distance 252,000 miles
7	9:00 a.m.	Venus passes north of Spica (brightest star in Virgo)
10	8:00 a.m.	Moon passes south of Saturn
	7:32 p.m.	Full moon (harvest moon)
17	5:00 a.m.	Algol at minimum
18	7:59 a.m.	Moon in last quarter
	4:00 p.m.	Moon passes north of Jupiter
20	1:50 a.m.	Algol at minimum
22	7:00 p.m.	Moon nearest, distance 225,600 miles
	10:30 p.m.	Algol at minimum
23	2:06 a.m.	Sun over equator, autumn commences in Northern Hemisphere
24	11:18 p.m.	New Moon
27	11:00 a.m.	Mercury behind sun
28	3:00 a.m.	Moon passes north of Venus
	9:00 p.m.	Moon passes north of Mars

Subtract one hour for CDT, two hours of MDT, and three hours for PDT.

• Science News Letter, 88:138 August 28, 1965

PSYCHOLOGY

Mothers of Slow Readers May Need Psychotherapy

► CHILDREN who are backward readers might benefit if their mothers were treated by psychotherapy.

That is the suggestion of Dr. E. Tuckman, a general practitioner in the London dormitory suburb of St. Mary Cray, Kent. He studied 32 backward readers, otherwise intelligent, aged eight and nine, and chose 25 children of similar age and sex at the same schools as controls.

In almost every respect the parents of the two groups were similar, but there was evidence of a greater degree of maladjustment in the families of the backward readers. Only two of the control families had ever been visited by the school attendance officer and only two had ever thought it necessary to have contact with a psychiatrist.

But in the backward readers' families seven had been visited by the school attendance officer and a further five parents had consulted a psychiatrist. Three other parents in the backward readers' group had sought advice from a marriage guidance counsellor or a probation officer. In half the families containing a backward reader, therefore, there was evidence of a problem of family mental health. In addition, Dr. Tuckman said he found more mothers in the backward readers' group with apparent neurotic tendencies.

Backward reading has been regarded as an index of psychological disturbance within the family. Dr. Tuckman's study confirms the belief.

Dr. Tuckman suggested that it may be

that a prediction of backward reading could be more easily made by studying the mothers rather than the children and this might provide the opportunity for preventive action before school entry.

He said he has also found that psychotherapy given to mothers of children who are bed-wetters has been shown to be effective in curing the child. The same, he thinks, may be true of mothers of backward readers.

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EDUCATION

New Alphabet Eases Job Of Learning to Read

► A 44-LETTER ALPHABET will be used to teach reading to all first graders this fall in Bethlehem, Pa.

The new system is being adopted for all because it was successful in turning out first-rate readers in a two-year experimental program. The system is known as ITA, or Initial Teaching Alphabet.

ITA was developed in England five years ago and introduced into the United States by Lehigh University, Bethlehem. It is rapidly reforming the teaching of reading across the nation, according to Dr. Albert J. Mazurkiewicz of Lehigh and director of the Bethlehem program.

He estimates that 10% of American six year-olds will be using ITA in September.

About 25% of England's beginning readers use the ITA alphabet now.

The new alphabet is longer but simpler. Of its 44 letters, 24 are normal Roman symbols. The rest are added to sounds not covered in the regular alphabet.

Advocates of ITA point out that their system eases the initial task of learning to read and reduces the ambiguity of conventional spelling.

Normally, they say, a child must learn hundreds of alternate spellings for various sounds. The words *do*, *zoo*, *true* and *shoe* have a sound that can be spelled in 18 different ways. With ITA there is only one spelling.

Moreover, ITA characters do not blanket an army of sounds but have the same value wherever found. Readers do not have to learn, for instance, that the "c" in *cat* is not the same "c" in *chat*. Vowels, a particular problem with their broad and erratic range of sounds, are robbed of complexity.

Dr. Mazurkiewicz reports that conventional reading and spelling are both improved with ITA.

Originally, trouble was anticipated as children switched from the new to the traditional alphabet, he said. However, last year 80% of Bethlehem children in the study transferred to normal English with no obvious trouble and by the end of the first grade were reading third-grade material. Dr. Mazurkiewicz said spelling is similarly improved. Second graders, given the Stanford Achievement test at the end of the year, showed substantial gains over control groups taught by a conventional system.

The simplified alphabet can also be used to attack the problem of remedial reading, Dr. Mazurkiewicz said. San Quentin prison has a program and non-English speaking groups are learning the language with it.

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