This described both the numerals themselves and their use in calculation. Al-Khwarizmi's book was translated into Latin by an Englishman, Robert of Chester, in 1120. This was the first of several Latin translations by means of which the Hindu-Arabic numerals became known to Western scholars. The methods of calculation using these numerals were given the general heading, algorithmus, from which our word "algorithm" is derived. Al-Khwarizmi's name has thus been preserved for us, in effect through a confusion between the name of the methods and the author of the principal work through which they became known. Algorithmus is just a corruption of the name Al-Khwarizmi.

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1 Flegg G. *Numbers—their history and meaning*. London: André Deutsch, 1983:67-71.

Cryptosporidiosis

SIR,—Dr D A Hunt and others (29 September, p 814) draw attention to the importance of *Cryptosporidium* as a cause of gastroenteritis. Their 5% incidence during a three month period may overestimate the overall incidence, but the number of cases (39) enabled them to emphasise the importance of the infection in immunocompetent patients.

Dr Hunt and others draw attention to the lack of information on the duration of oocyst excretion and point out that 44% of their patients were still excreting oocysts two weeks after onset, whereas others suggest that shedding ceases after a week.[1] We have published details of 27 cases of cryptosporidiosis[2] and now have information on 41 cases, which represents an incidence of 1·3% in the patients whose faeces were submitted to the laboratories of two Liverpool children's hospitals. Of the 41 cases 39 were in immunocompetent children not infected by other enteropathogens. The duration of diarrhoea (based on the 34 patients for whom data was available) was 12·4 days (SD 4·8). In 18 we were able to determine when oocyst excretion ceased, which was on average at 23·3 days (6·4). Thus patients excrete oocysts for about twice the duration of diarrhoea, a finding which will have a bearing on epidemiological investigations.

Our cases of cryptosporidiosis in immunocompetent children have been rather more severe than those described by Dr Hunt and others. Although our median value for duration of diarrhoea (12 days) was the same, our figures for vomiting (63%), abdominal pain (61%), and pyrexia (34%) are higher than those of Dr Hunt and others (17%, 38%, 21% respectively), and 51% of our patients required hospital admission. This difference may be, however, because our survey was conducted through hospitals rather than general practitioners and might be expected to detect the more severe cases. Also nothing is known about possible differences in the virulence of *Cryptosporidium* isolates from different areas.

Although the reported incidence of cryptosporidiosis appears low,[3 4] we agree with Dr Hunt and others that when compared with other known causes of childhood gastroenteritis *Cryptosporidium* is an important cause and as such deserves attention.

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2 Hart CA, Baxby D, Blundell N. Gastroenteritis due to *Cryptosporidium*: a prospective survey in a children's hospital. *Journal of Infection* (in press).
3 Casemore DP, Jackson B. Sporadic cryptosporidiosis in children. *Lancet* 1983;ii:679.
4 Tzipori S, Smith M, Birch C, Barnes G, Bishop R. Cryptosporidiosis in hospital patients with gastroenteritis. *Am J Trop Med Hyg* 1983;**32**:931-4.

SIR,—Our laboratory serves a mixed urban and rural population of about 280 000, and since 1 April 1984 direct smears from all stool specimens submitted to this laboratory have been examined by microscopy for *Cryptosporidium* oocysts after staining by the safranin-methylene blue method.[1] The results for the six months to 30 September 1984 together with details of other enteric pathogens detected during the same period are shown in the table. As there are seasonal variations in the prevalence of some of these organisms and as no such data for *Cryptosporidium* are yet available comparisons should be made with caution.

For each patient with stools positive for *Cryptosporidium* oocysts information was collected from case notes, by interviewing the patient or parents (in hospital or at home), or by postal questionnaire completed by the patient's general practitioner. None of the patients had malignant disease or were receiving cytotoxic or immunosuppressive treatment. Our findings broadly agree with those of Dr Hunt and others regarding the clinical features of the disease as a self limiting, watery, offensive diarrhoea.

Half of our patients complained of abdominal pain, but only 2/21 (9·5%) had mucus in the stool, and only one had a suspicion of blood in the stool. But 18/22 (82%) suffered from vomiting—sometimes severe. No difference in prevalence between rural and urban environments could be detected. Only one patient had had close contact with sick animals —a 16 year old girl working on a farm and tending calves with diarrhoea. She had suffered an antecedent pharyngitis and had a positive Paul-Bunnell test at the same time that *Cryptosporidium* oocysts and rotavirus were present in her stool. She made an uncomplicated recovery. Four patients had been abroad (India, Italy, Pakistan, and Spain) within the two weeks before symptoms started. No cases were associated with known episodes of diarrhoeal disease at nursery, school, or workplace, but 10 patients had other members of their family concurrently ill with diarrhoea. Specimens were not examined from contacts.

Our figures supplement those previously reported from north Wales,[2 3] Liverpool,[1] and Sussex.[4] We agree that *Cryptosporidium* is a parasite that should be sought in immunocompetent patients with acute or recurrent diarrhoea, both in hospital and from general practice.

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Points

Thesis by questionnaire

Dr J P LESTER (Walsall WS1 1UG) writes: Almost every week I receive questionnaires, often lengthy, from many sources and on many topics. Most are badly designed, and many of them are destined to provide data for theses or for articles that will be presented for publication. It is the latest epidemic.

In an attempt to control it may I suggest that thesis by questionnaire is a perfunctory approach guaranteed to gather unreliable information.

Computer aided decision making

Dr VERNON COLEMAN (Leamington Spa, Warwickshire) writes: In the leading article (8 September, p 567) David J Spiegelhalter referred to one of my computer programs, *The Complete Guide to Medicine*, but failed to mention the publisher. This has, I am afraid, caused a little confusion among would-be purchasers. *The Complete Guide to Medicine* is available at £6·90 from Eastmead Computer Systems Ltd, Eastmead House, Lyon Way, Camberley, Surrey GU16 5EZ. It is the first such system available and is now selling all over the world.

Enteric pathogens detected in 1523 stool specimens from hospitals and 651 from general practice from April to September 1984

Age (yrs)	No with *Campylobacter*		No with *Cryptosporidium*		No with enteropathogenic *Escherichia coli**		No with *Giardia*		No with *Salmonella*		No with *Shigella*	
	Hospital	General practice	Hospital	General practice	Hospital	General practice	Hospital	General practice	Hospital	General practice	Hospital	General practice
<1	7	3	4	0	6	3	2	2	5	3	1	0
1-4	5	13	3	5	7	4	5	7	6	8	4	4
5-9	4	4	4	2			4	1	0	3	1	0
10-14	1	3	1	2			1	1	0	0	0	1
15-19	1	5	1	0			0	2	1	4	0	1
≥20	2	19	1	1			1	8	7	9	1	0
Unknown	1	2	0	0			0	0	0	2	0	0
Total	21	49	14	10	13	7	13	21	19	29	7	6
Combined total	70		24		20		34		48		13	

* Only tested for in patients <3 years.