Bartholinitis, and Reiter's disease⁸; about half the cases of reactive inflammatory arthritis occurring as a sequel to sexually acquired non-gonococcal genital tract infections are associated with *C trachomatis* infection.⁹ Chlamydial urethritis and chlamydial cervicitis are the commonest venereal diseases in the United Kingdom and the United States.^{10 11}

The other species of the genus, *C psittaci*, has tended to be rather neglected in recent years mainly because of the expanding interest in *C trachomatis*. But infection associated with psittacine birds has been known since 1879, when the Swiss physician, Ritter, observed respiratory illness in a household where there were sick parrots.¹² Little attention was paid to the disease until 1919, when outbreaks associated with South American parrots occurred in many countries.¹³ Budgerigars are now the commonest source of human psittacosis in Britain, although often an avian source of infection cannot be traced.¹⁴ In 1948 ornithosis (the general term used to include strains from non-psittacine birds) was associated with the processing of turkeys after an outbreak at a Texas plant resulted in 22 human cases and three deaths.¹⁵ In Britain duck associated outbreaks have been reported in the past few years: in the winter of 1979 and the spring of 1980 an outbreak among workers in the duck industry in Norwich resulted in 19 cases,¹⁶ and in November 1980 15 out of 46 veterinary surgeons attending a training course on inspecting poultry processing plants became infected.¹⁷

The importance of *C psittaci* as a cause of human morbidity has been heightened by two recent advances. Grayston and others have discovered a new strain of *C psittaci*, the TWAR agent (TWAR is an acronym indicating the geographical site of the first isolate—TW for Taiwan—and the clinical condition associated with the second isolate—AR for acute respiratory disease), which is a common cause of pneumonia. The second discovery is the increased incidence of abortion among pregnant women who are in contact with infected sheep.¹⁸ TWAR infection was detected in 12% of cases of pneumonia (9/76) and in 21% (8/38) of those confirmed radiologically. The illness was clinically similar to mycoplasma pneumonia, and an epidemic of pneumonia in Finland has also been attributed to these organisms.¹⁹

Some non-avian strains of *C psittaci* are common causes of enzootic abortion in sheep, and the organism is present in large numbers in the abortus, the placenta, and the uterine discharges.²⁰ The danger to pregnant women of contact with infected material has been suggested for some years,²¹ but this hazard has been recently re-emphasised with further cases of chlamydial infection in pregnant women being reported.^{22 23} Clearly, the chlamydiae are organisms to be heeded.

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Bowlby's 80th birthday

What Francis Crick and James Watson were to molecular biology John Bowlby has been to child development. His highly original work done soon after the war has proved enormously fruitful, and it was no surprise that 400 participants from 20 different disciplines turned up to a conference organised by the Tavistock Clinic to celebrate his 80th birthday.

The appearance in 1951 of *Maternal Care and Child Health*, a book written at the behest of the World Health Organisation, led to vigorous discussion among all those interested in young children. It was translated into 12 languages and later abridged by Margery Fry to become *Child Care and the Growth of Love*, which sold half a million copies and is still in print. (Bowlby recently said, "It could do with a rub up, though.") Like many of his writings from 1938 this work showed how his imaginative thinking was backed up by systematic longitudinal studies. He and his colleagues showed how attachments develop from infancy into school age and at all phases of the life cycle—birth, adolescence, marriage, old age, and particularly bereavement.

Although psychoanalytic in his approach, Bowlby was, ironically, eclectic and egalitarian. He did not believe in the dominance of doctors and realised how much psychologists, social workers, and psychotherapists had to offer psychiatry if they came together. This was the philosophy of the Tavistock Clinic, where Bowlby was founder and first director of the child and family department. Bowlby also turned to ethology to see what it had to offer on the study of the relationships between mother and infant from its acute and intense direct observations and its systematic data collection.

He broke with the orthodox belief that infants were dominated by instinctive drives and genetically preprogrammed. He showed how vital was the infant's experience right from the start of life through attachment to the mother. If a child was given time, attention, and accessible, responsive interaction then the attachment was good and the child joyful, secure, confident, and independent. Poor attachment led to jealousy, anxiety, and anger, and broken attachment to grief and depression. Bowlby studied the quality of parenting, and while he emphasised how big a part the mother played he also recognised the importance of fathers. Their importance lay not only in relating well to their

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children but also in supporting their wives, especially during pregnancy and labour and when they were under pressure from family commitments. This recognition of the importance of fathers led to the concept of family therapy, which was later developed by John Elderkin Bell. If fathers were not included they might sabotage the help given by professionals.

Bowlby's ideas were not readily accepted. He aroused antagonism among those caring for sick children in hospital because they felt threatened by him showing how much the home mattered to the child. Feminists protested that Bowlby was demoting women to "Kinder, Kuche, and Kirche," whereas what he was really saying was that the child's need for warm caring mothers could be provided by grandmothers or other surrogate figures. Hospitals resisted for a long time Bowlby's suggestions on more open visiting. Nurses would say, "You see how upset the child is after visiting time, he now has a fever and has started to vomit": they failed to recognise that the child's expression of fear and loneliness was rekindled on seeing his parents. Bowlby's colleagues felt threatened because he recognised that non-doctors were as important as doctors.

Eventually resistance to Bowlby's ideas gave way, and workers all over the world tested his ideas scientifically. Psychotherapists and psychologists recognised that the experiences that parents bring with them from their childhoods affect their relationships with their own children. This led to a fresh look at the experiences that children go through in unfavourable circumstances—such as socioeconomic hardship, parental unemployment, poor housing, and, above all, separation at vulnerable times in infancy. Bowlby was a synthesiser. He bridged the disciplines and started a vigorous appreciation of the far reaching effects of an infant's experiences.

The celebratory conference aimed at showing how these early experiences affect emotional development and how when attachments are interrupted the result can be psychiatric problems and distorted human relationships—maternal depression, suicide, and murder. But mostly the conference was concerned with the ideas on prevention and treatment that flowed from Bowlby's ideas. It was a memorable occasion made all the more so by Bowlby's presence and his reflections at the end that much remained to be done. He was appreciated for his individual achievements, but the conference was essentially concerned to acclaim his influence and inspiration to others.

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Poliomyelitis vaccination

The widespread epidemics of paralytic poliomyelitis characteristic of the first half of this century in developed countries ceased with the introduction of inactivated injected vaccines and live oral vaccines. Sporadic episodes of natural poliomyelitis have continued. In the inquiry for 1970-9 conducted by the World Health Organisation in 13 countries the spread of natural poliomyelitis was limited to small outbreaks in 1970-2 and 1976-8 in four countries in Europe and North America and appeared to be part of a widespread inter-country outbreak of polio type 1 affecting unimmunised

groups.¹ No spillover to the community was observed. In one of the four countries inactivated vaccine was used exclusively, in another both vaccines were used (in different areas), and in the remaining two live vaccines were used almost exclusively.

Four years after this report, between August 1984 and January 1985, one non-paralytic and nine paralytic cases of poliomyelitis occurred in Finland, apparently due to an antigenically altered poliovirus type 3.² This outbreak aroused considerable interest, as Finland relies almost exclusively on inactivated vaccine. Five of the patients had received five doses and two three doses; one had had one dose 20 years previously and the remaining two had not been vaccinated. Isolations of the virus from sewage suggested that at least 100 000 persons had been infected. The outbreak was controlled by giving inactivated vaccine to those under 18 years and oral vaccine to 95% of the population. No proved case of paralytic disease induced by the oral vaccine occurred and the circulation of the epidemic strain appears to be over. In Finland it was considered that the outbreak was not due to a failure of inactivated vaccine in general but to the poorly immunogenic preparation then in use. A new vaccine is being introduced.

The results of studies between 1972 and 1986 of sero-immunity to poliovirus in England and Wales suggest that the overall immunity level in the population is rising.^{3,7} But these, and studies from countries using oral vaccine such as Belgium,⁸ have found lower than average titres of circulating antibody, particularly to poliovirus type 3, in children aged 10-15. Joseph and others, reporting on the antibody state of first year university students born in 1965-6, when the uptake of poliovaccine was declining, showed that many British born students had adequate circulating antibodies despite incomplete immunisation schedules (p 171). Thus, from the age of 20 onwards the levels of immunity have remained high even though booster doses have not been given routinely. In Finland a survey in 1982, when only inactivated vaccine was used, showed that a low proportion of 3 year old children who had completed the primary course had circulating antibodies to type 3 but that by the age of 15-20 this was over 90%.

In England and Wales vaccine like viruses have replaced wild strains of the type circulating in the community. Vaccine like virus causes a subclinical illness and about once in 2 million doses may affect the central nervous system. As with the natural disease this occurrence is unpredictable and apparently unpreventable. Of the 70 cases of paralytic poliomyelitis in England and Wales between 1970 and 1984, 19 were due to wild, 27 to vaccine like, and five to "intermediate" viruses; the strains were not known in 10 and there was no isolate in the remaining nine.⁹ Although there was seldom documentary confirmation, eight adults had received inactivated vaccine in the past: in two cases wild viruses were responsible, in five they were vaccine like, and in one the strain was not known. Five had received oral vaccine in the past: two cases were caused by wild viruses and vaccination had been incomplete; in two the viruses were vaccine like (in one vaccination had been complete and in another incomplete); and in the remaining case the virus was not isolated and the patient became paralysed after a fourth (booster) dose. There were 17 cases (including the last) which occurred within 30 days of vaccination and 12 after close contact with recently vaccinated persons.

Over the years the number of recipient cases has appeared to increase slightly, possibly owing to better recording.