Understanding autism — a work in progress

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Although case reports of what we might call autism were published as early as the 1890s,[1] it was not until 1943 that Kanner[2] defined the syndrome that we know today. Within a year, Asperger[3] described a similar group of subjects. Neither author was aware of the other's work, but both used the term "autistic" in the titles of their articles. Kanner believed that autistic children must have "come into the world with innate inability to form the usual, biologically provided affective contact with people." Asperger believed that his subjects had an "autistic personality type," rather than a disorder, and that the symptoms could vary in severity from "highly original genius, through the weird eccentric ... down to the most severe contact-disturbed, automaton-like mentally retarded individual." Asperger's paper was written in German, during World War II, and was not discovered by most English-speaking experts until Wing,[4] among others, introduced it into the English literature. The first English translation was not available until 1991,[5] 11 years after Asperger's death. Between 1943 and the early 1970s, major epidemiological studies succeeded in better defining the syndrome of autism, establishing its prevalence rate, and providing some concrete evidence that it is a biological disorder. Publication of the American Psychiatric Association's third edition of the *Diagnostic and Statistical Manual of Mental Disorders*, in 1980, 37 years after Kanner's initial paper, provided the first *official* definition and epidemiological description of autism in the United States, just as the ninth edition of the *International Classification of Diseases* had done worldwide.[6]

Within the past decade, new knowledge about human development and new experimental technologies have extended our previous epidemiological and symptom-based understanding of autism. Developmental psychologists have described the manner in which "social communication" unfolds. Social communication refers to some quite specific behaviours, in which complex cognitive and emotional information is communicated through facial expression, emotional gesture, the prosodic melody of speech, and knowledge of the social rules of communication ("pragmatics"). Children come into the world behaviourally programmed to look at complex stimuli (such as faces) and to interact with their caregivers in ways that allow them to learn which facial, gestural and tone-of-voice cues are salient. They use this information to construct a non-verbal understanding of how one interacts with others. Autistic children appear to lack the behavioural propensity to learn such skills.[7] And, resonating with Asperger's idea that persons with autism may show a broad range of symptom severity, it has also been suggested that autism may be a "spectrum disorder."[8]

Recently, the new technologies of molecular biology and genetics have begun to be used to study autism. These, along with neuroimaging and perhaps immunology, could substantially extend our understanding of autism, and of social communication in general. In this issue of the Journal (see page 103), Drs. Trottier, Srivastava and Walker present a remarkable review of

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this current literature. Their report is lively, well organized and very comprehensive. I expect that Kanner would be pleased to learn how much closer we may be to understanding the biology of "affective contact." Of course, it has taken more than 50 years to get this far. I urge you to keep following the autism story as it continues to unfold. It should be an exciting saga.

Editor's note: In addition to the article "Etiology of infantile autism: a review of recent advances in genetic and neurobiological research" (page 103), autism is the subject of "Heterogeneity and the genetics of autism" (page 159), appearing as part of the special section on pharmacogenetics in this issue.

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