

## **Autism and Family Home Movies: Preliminary Findings<sup>1</sup>**

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*Preliminary analyses of 12 home movies taken by parents before the recognition of autistic disorders of their own child confirm the major value of this method for describing early signs: anomalies of eye contact, deficient variability of emotional expression, defect of attention and initiation of communication, motor abnormalities, etc. The possibilities of subsequently using these documents in a research context are described: behavior assignment with a rating scale, comparative analysis with movies of normal children, blind examination, and scoring by investigators not informed of the diagnosis.*

The observation of movies taken by families before the child's disorders were identified has led to a new approach to pathologies affecting the early development of communication. Similar research has been conducted in the United States by Massie and Rosenthal (1984), whose main aim was to study mother-child interactions. The present work succeeds an initial publication of two cases (Sauvage, 1988). Several families have subsequently come forth to spontaneously offer filmed documents of their young child. We have analyzed them with the aim of conducting a semiological study of the initial disorders. This paper presents an early phase of a larger research program including symptomatic analysis, evaluation of behaviors by the use of a rating scale, study of selected situations and

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neurological functions. The aim of this pilot work is to suggest the feasibility of proceeding with the next steps.

## METHOD

### *Subjects*

The population was composed of 12 children with pervasive developmental disorders: 9 presented infantile autism (American Psychiatric Association, 1980, 1987; Rutter & Schopler, 1987) and 3 atypical pervasive developmental disorders (American Psychiatric Association, 1980). All the children underwent a complete observation in our department and their parents participated in the study.

### *Movie Films*

The clinical value of the documents varied as a function of the age of the child at the time of the different sequences, the circumstances of the filming, and the technical quality of the movies. In two cases, the child was filmed at birth and the first 2 weeks of life were available in four cases. Movies were examined only up to the age of 2, but may have been taken up to the age of 4. Duration varied from 10 to 80 min. The main situations depicted in the movies are meals, baths, Christmas, vacation at the seaside, the first steps, birthdays, the school fair of older siblings, and so forth (Sauvage et al., 1988).

### *Procedure*

The study involved four phases, of which only the first is reported here.

*Phase 1:* Symptomatology analysis of the movies during repeated projections, some in the presence of the parents (Adrien, Perrot, Faure, & Sauvage, 1990).

*Phase 2:* Evaluation of behavior using the ERC-N scale (Adrien, Faure, Drucker, & Sauvage, 1990). Using this procedure, the following were carried out: (a) evaluations of autistic children by scoring investigators informed of the diagnosis, (b) evaluations of control children (either normal children or a healthy brother or sister of the subject) by scoring investigators informed of the diagnosis, and (c) evaluations in the same cases

**Table I.** Main Behaviors Observed in the Movies (0 to 2 years)

Disorders of social interaction	Tendency towards isolation, no eye contact. Lack of postural adjustment, bad positioning of the head. Lack of anticipatory movements, lack of initiative.
Emotional disorders	Deficit of facial expressions, absence of smiles. Anxiety of new situations, major emotional lability.
Visual and auditory behaviors	Gaze: rare or 'tense/sad/stern...." Audition: slow or delayed reaction, hypo (or hyper) reactive.
Disorders of tone and motor behavior	Hypotonia, "too quiet child." Hand flapping, lack of protective movements.
Atypical behavior	Self stimulation, obsessive behavior, stereotypic behavior.

with the same method, but by scoring investigators not informed of the diagnosis.

*Phase 3:* Study of selected situations: Christmas, baths, first steps, meals, birthdays, and so forth, in paired sequences in order to establish relations among the observed behaviors, level of development, and subsequent diagnosis.

*Phase 4:* Study of neurophysiological functions. This method, which leads to a better understanding of the initial phases of autism, also furnishes an approach to symptoms by the search for correlations between the earliest signs and the neurophysiological/neuropsychological functions that are probably involved (Lelord, 1990).

Phase 1 has already been carried out (Adrien, Perrot, et al., 1990) and these results are reported here. Phase 2 is in progress (see discussion) and the results will appear soon (Adrien, Faure, et al., 1990; Adrien et al., in preparation).

### *Scoring*

The first two phases of the study are descriptive, with an overall analysis of the movies followed by a finer sequence-by-sequence analysis, in order to detail certain behaviors. Prior studies (Sauvage et al., 1988) have established groups of the most often observed behaviors and this was used in the present study to note signs during observations (Table I). Exchange capacities and behaviors of the children were thus noted as precisely as possible (narrative transcription). Observers and scorers were trained for the

examination of very young children, as well as for the use of the evaluation methods (scales). When the observers knew that the children had developmental disorders, some might have known them before scoring, others not.

## RESULTS

The entire set of movies enabled an early symptomatology of infantile autism to be characterized. It was always possible to clearly discern behavioral abnormalities between 0 and 2 years. The movies did not enable the identification of the presence of certain symptoms such as sleep disorders, feeding disorders, or fits of temper (which parents do not normally film since the purpose of movies is usually to preserve a pleasant souvenir) to be judged. These most evident disorders, on the other hand, are easily detected in traditional clinical examination. In contrast to the above symptoms not filmed, others could not escape the camera, either because they were unknown or seemed harmless to the parents, or because they constantly existed. Five types of anomalies occurring between 0 and 2 years of age were evaluated by three raters from a consensus rating, before any pathology was suggested: disorders of visual behavior, disorders of expression/understanding of emotions, disorders of social interactions, disorders of tone and motor behavior and, finally, some atypical behaviors (odd behavior, stereotypies, etc.) (Table II).

Among the findings of this first phase, we mention the following:

Signs were early in all the children, that is, behavior and/or communication disorders could be identified within the first few months.

The main characteristics of each case, as they could be recognized in the child when he was older, were present early and appeared to be constant in the same child, but obviously varied from one child to another: paradoxical reactions to sounds and/or semblance of deafness, bizarre motor actions, atypical motor functions, excitability or passivity, dominant poles of interest (lights, noises).

As early as the first months, adults with the child exhibited compensatory behaviors even before they had any idea of the child's disorders: for example, they made attempts to animate or interest the infant or to establish communication.

## DISCUSSION

Anomalies were noted in the movies as early as the first few months of life, well before the parents or the family physician had cause for con-

**Table II.** Summarized Evaluation of Behaviors Observed on Family Home Movies for 12 Children (0 to 2 years)<sup>a</sup>

	1	2	3	4	5	6	7	8	10	12	13	14
Disorders of social interaction	+++	++	+++	+++	+	+++	++	++	++	+++	++	+++
Emotional disorders	+++	+	++	++	+++	++	++	+	+++	+++	-	+++
Visual and auditory behaviors	+	+	++	+	+++	+	++	+	+	++	+	+++
Disorders of tone and motor behavior	++	+	+++	-	++	++	++	+++	+++	++	+++	+
Atypical behavior	+	+	++	++	-	++	++	+	++	+	-	+

<sup>a</sup>Score from + (possible or light symptom) to ++++ (major symptom). *Autism*: cases 1, 4, 5, 6, 7, 8, 10, 12, 14. *A.P.D.D.*: cases 2, 3, 13. (More detailed results and discussion will appear in Adrien *et al.* 1990b and Adrien *et al.* 1990c.) (N.B.: cases 9 and 11 were not filmed between 0 and 1 year.)

cern. Some of these signs were not always detectable in retrospective interviews with the parents: anomalies of regard in some cases present at birth, defect in anticipation reaction during the first few months, and so forth. The movies also showed the development of the child in his natural surroundings and how other deviant behaviors arose: stereotyped movements, passivity, lack of initiatives, tendency to remain isolated, refusal of body contact, lack of exploration of the environment. Pronounced individual characteristics were noted very early by the trained observer.

The difficulties and the limitations of this type of research deserve to be mentioned: The movies are very different in terms of their content, such that certain sequences may evoke exaggerated appreciation (subjective position taken on normalcy or, on the contrary, the pathologic character of a given behavior); the adults appearing in the filmed sequences could be influenced by the fact of filming. In spite of this, these analyses of movies combined with conventional clinical investigations are a rare opportunity to study the natural history of autistic behavior, the diagnosis and the recognition of clinical forms. In addition, this work is a precious contribution to the professional formation of students and colleagues, since regular training is required to reduce the emotional reactions and personal interpretation during observations. To this end, several proposals may be adopted: the use of a scale for rating autistic signs, advance selection of the behaviors to be examined, comparative evaluations between normal and autistic children, blind scoring, and so forth. These studies are currently being conducted (Faure, 1989).

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