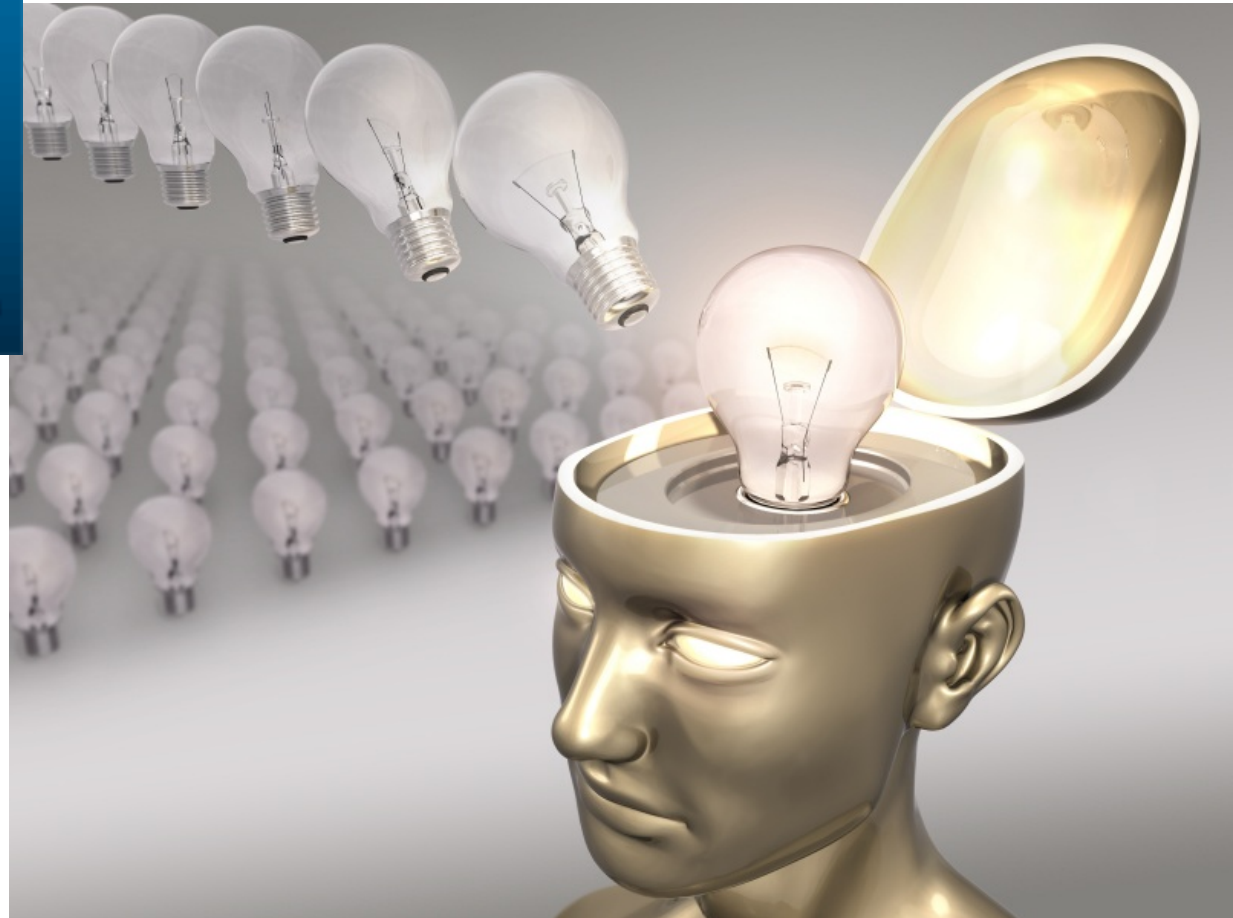




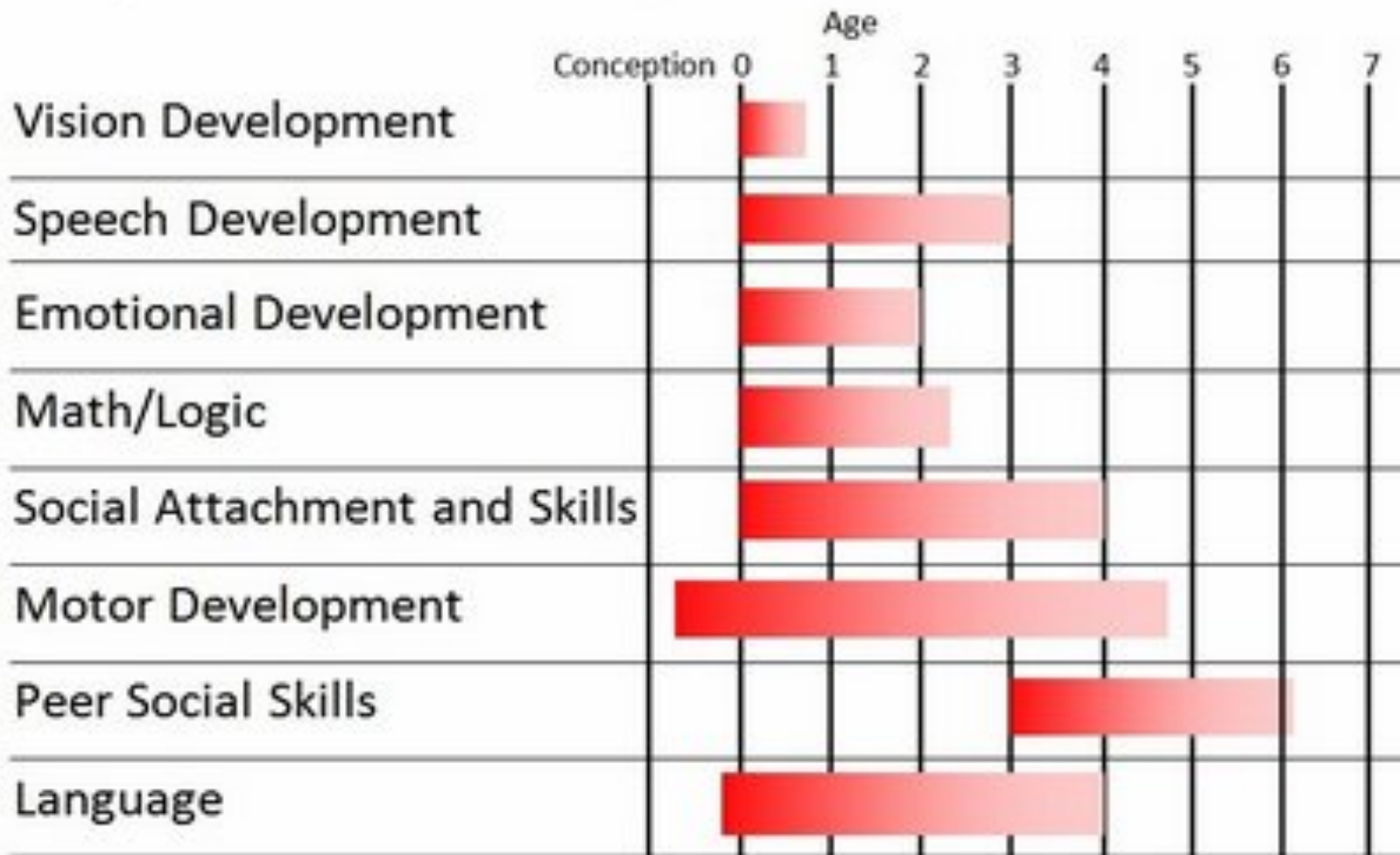


(re)shaping the brain?



critical periods?

Stages of Brain Development in an Infant





What?

Why?

How?

What are we looking for?



ADHD

Amblyopia

Autism (SD)

Cerebral palsy

Duchenne MD

Hearing impairment

Intellectual disability

Language delay

.....

.....

all of them?

Every good conversation starts with good listening.

©2009 Mike Arauz

Relying on parents?

Listening Skills



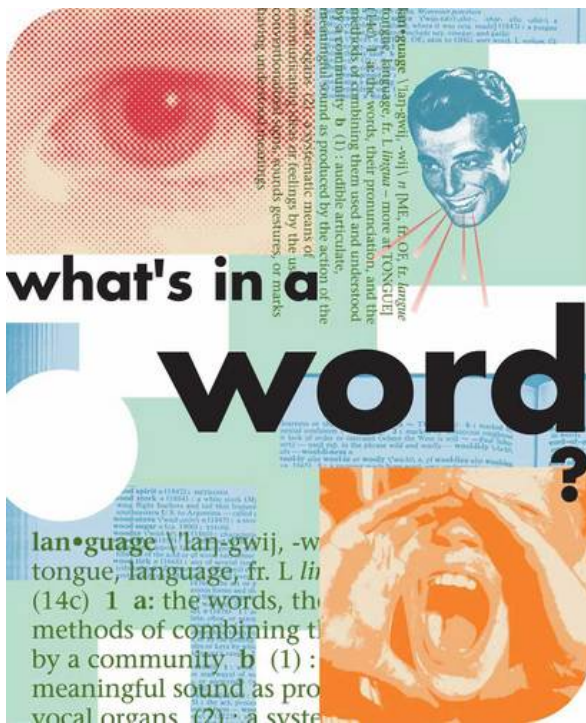
LOOK

at the person talking



www.imaginativeteacher.com

1. Sit up.
2. Look interested.
3. Lean forward.
4. Listen.
5. Act interested.
6. Nod your head to show that you are tuned in.
7. Track the speaker with your eyes.



terms

- delay
- retardation
- deviant
- abnormal
- pathologic
- screening
- monitoring
- surveillance
- assessment
- diagnosis
- validity
- reliability
- feasibility
- acceptability
- cross-cultural

What's in a Word?

Language may shape our thoughts.

BY SHARON BEGLEY



WHEN THE VIADUCT de Millau opened in the south of France in 2004, this tallest bridge in the world won worldwide accolades. German newspapers described how it “float- ed above the clouds” with “elegance and

perception. “Even a small fluke of mar”—the gender of nouns—“can have an effect on how people think about in the world,” she says.

As in that bridge. In German, the word for bridge, *Brücke*, is feminine. In French, *le pont* is masculine. German speakers describe prototypically female features; French speakers, masculine ones. Some German speakers describe *keys* (*Schlüssel*) as

Wilson and Jungner classic screening criteria

1. The condition sought should be an important health problem.
2. There should be an accepted treatment for patients with recognized disease.
3. Facilities for diagnosis and treatment should be available.
4. There should be a recognizable latent or early symptomatic stage.
5. There should be a suitable test or examination.
6. The test should be acceptable to the population.
7. The natural history of the condition, including development from latent to declared disease, should be adequately understood.
8. There should be an agreed policy on whom to treat as patients.
9. The cost of case-finding (including diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole.
10. Case-finding should be a continuing process and not a “once and for all” project.

WHO 1968

Synthesis of emerging screening criteria proposed over the past 40 years

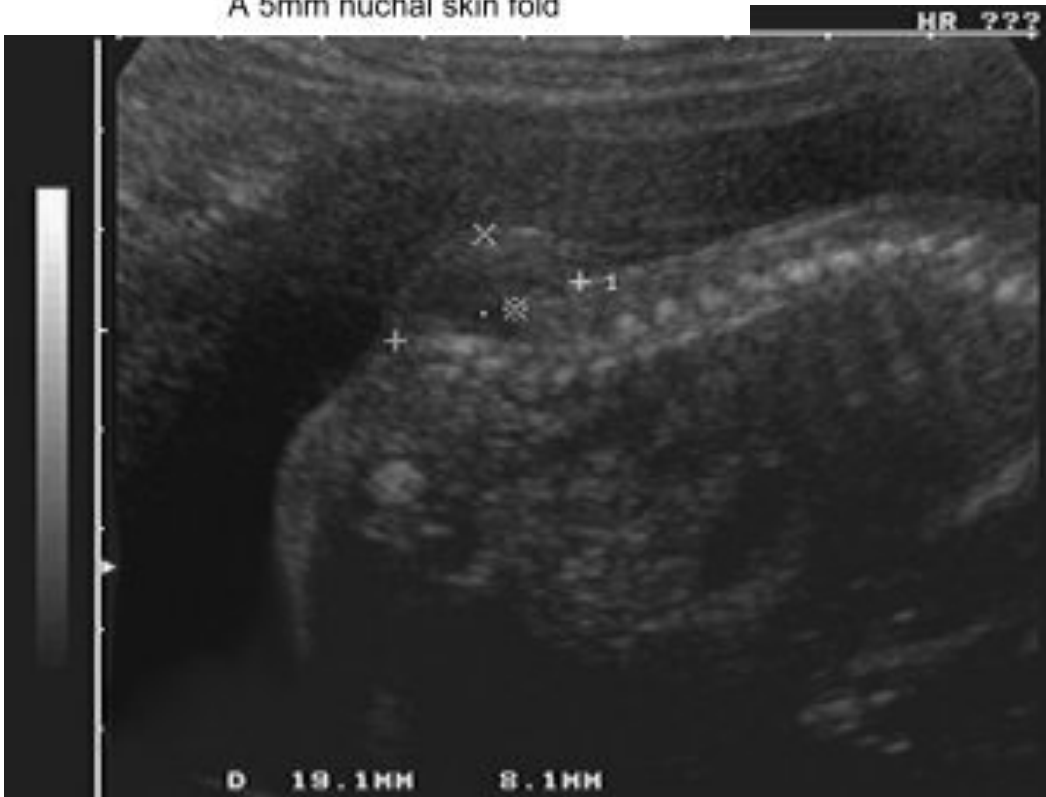
- The screening programme should respond to a recognized need.
- The objectives of screening should be defined at the outset.
- There should be a defined target population.
- There should be scientific evidence of screening programme effectiveness.
- The programme should integrate education, testing, clinical services and programme management.
- There should be quality assurance, with mechanisms to minimize potential risks of screening.
- The programme should ensure informed choice, confidentiality and respect for autonomy.
- The programme should promote equity and access to screening for the entire target population.
- Programme evaluation should be planned from the outset.
- The overall benefits of screening should outweigh the harm.

early identification of cognitive impairment

- prenatal screening
- history: unfavorable events pre/peri/postnatally
- 'external' stigmata
- investigations: e.g. neuroimaging
- time course: milestones
- parental concerns – questionnaires
- developmental screening – surveillance
- developmental tests



A 5mm nuchal skin fold





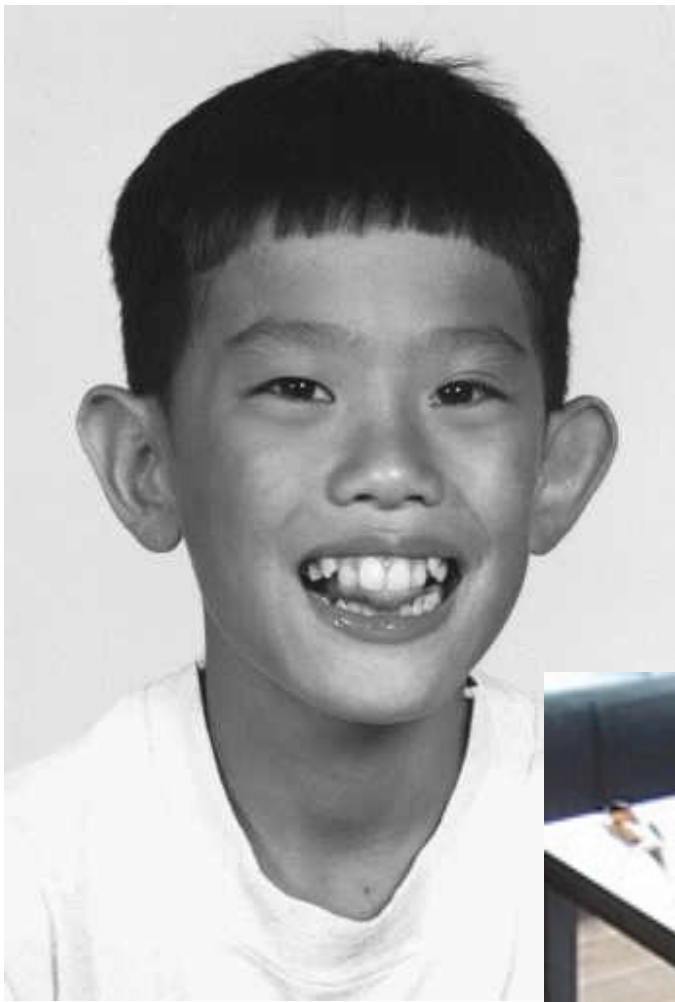






Andreas Rett 1924 - 1997



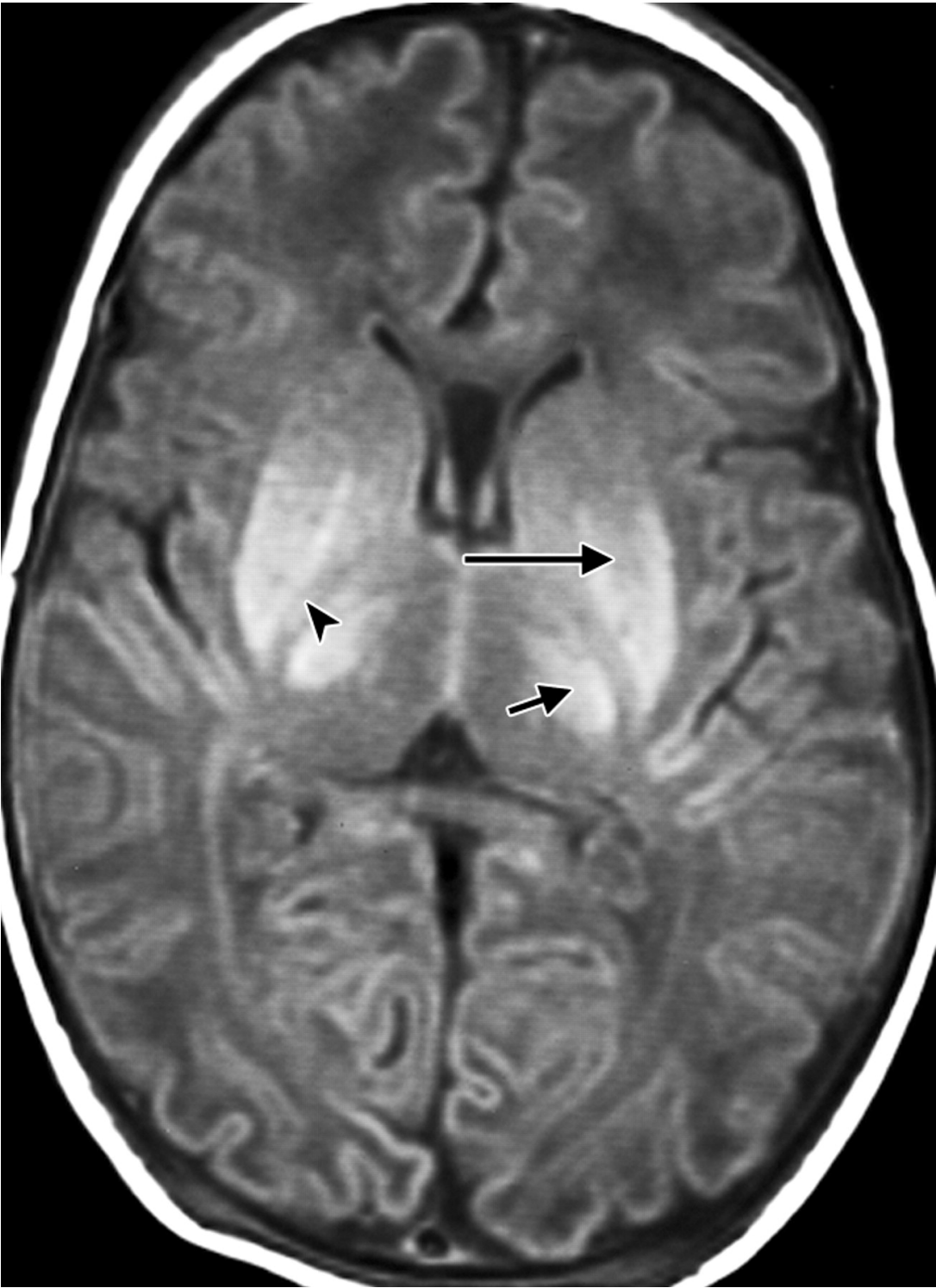




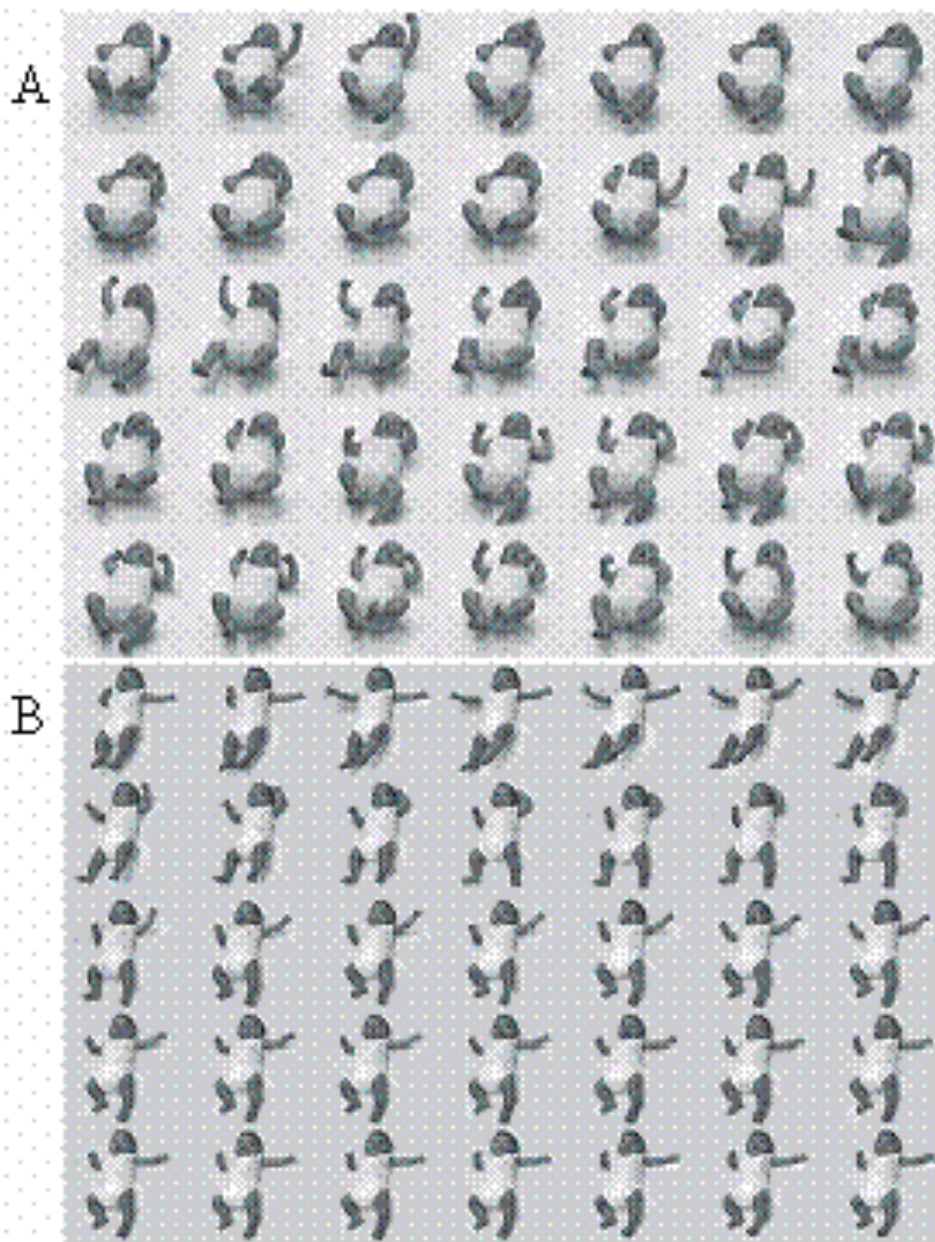
Neurologic problems presenting at birth

- congenital anomalies
 - spinal dysraphism - hydrocephalus
 - (malformation) syndromes
- neuromuscular diseases (e.g. Steinert's disease)
- metabolic diseases
- perinatal asphyxia
- preterm birth
- neonatal seizures
- perinatal infections

MRI in perinatal asphyxia



General movements



Proportion of surviving children with major/ minor developmental disorder



$< 2000g$ $1/5$

$< 1500g$ $1/4$

$< 1250g$ $1/3$

$< 1000g$ $1/2$

“Doctors are all interested in the risk groups, but parents are anxious to know not about risks but about their babies.”

Martin Bax, 1987

Table 20-1. Median Correlations Across Studies Between Infant Test Scores at Various Ages During the First 2 Years of Life.^a

4-6	0.52 (8/6)			
7-12	0.29 (14/6)	0.40 (18/10)		
13-18	0.08 (3/3)	0.39 (6/6)	0.46 (9/6)	
19-24	-0.04 (3/3)	0.32 (6/6)	0.31 (9/6)	0.47 (7/6)
	1-3	4-6	7-12	13-18
	Age in Months			

Data taken from Anderson (1939); Bayley (1933); Bayley (1954); Birns and Golden (1972); Cattell (1940); Cavanaugh et al. (1957); Elardo et al. (1975); Escalona and Moriarty (1961); Fillmore (1936); Goffeney et al. (1971); Hindley (1965); Honzik et al. (1948); Ireton et al. (1970); Kangas et al. (1966); Klackenberg-Larsson and Stensson (1968); McCall et al. (1972); Moore (1967); Nelson and Richards (1939); Werner et al. (1968).

^a Decimal entries indicate median correlation, the numbers in parentheses give the number of different r 's and the number of independent studies used to calculate the median. In the case of more than one r per study, the median r for that study was entered into the calculation of the cell median.

712 The Development of Intellectual Functioning in Infancy and the Prediction of Later I.Q.

Table 20-3. Median Correlations Across Studies Between Infant Test Scores and Childhood IQ

Age of Childhood Test (years)	Age of Infant Test (months)				
	1-6	7-12	13-18	19-30	
8-18	0.06 (6/4)	0.25 (3/3)	0.32 (4/3)	0.49 (34/6)	0.28
5-7	0.09 (6/4)	0.20 (5/4)	0.34 (5/4)	0.39 (13/5)	0.25
3-4	0.21 (16/11)	0.32 (14/12)	0.50 (9/7)	0.59 (15/6)	0.40
	0.12	0.26	0.39	0.49	

Data taken from Anderson (1939); Bayley (1933); Bayley (1954); Birns and Golden (1972); Cattell (1940); Cavanaugh et al. (1957); Elardo et al. (1975); Escalona and Moriarty (1961); Fillmore (1936); Goffeney et al. (1971); Hindley (1965); Honzik, et al. (1948); Ireton et al. (1970); Kangas et al. (1966); Klackenberg-Larsson and Stensson (1968); McCall et al. (1972); Moore (1967); Nelson and Richards (1939); Werner et al. (1968).

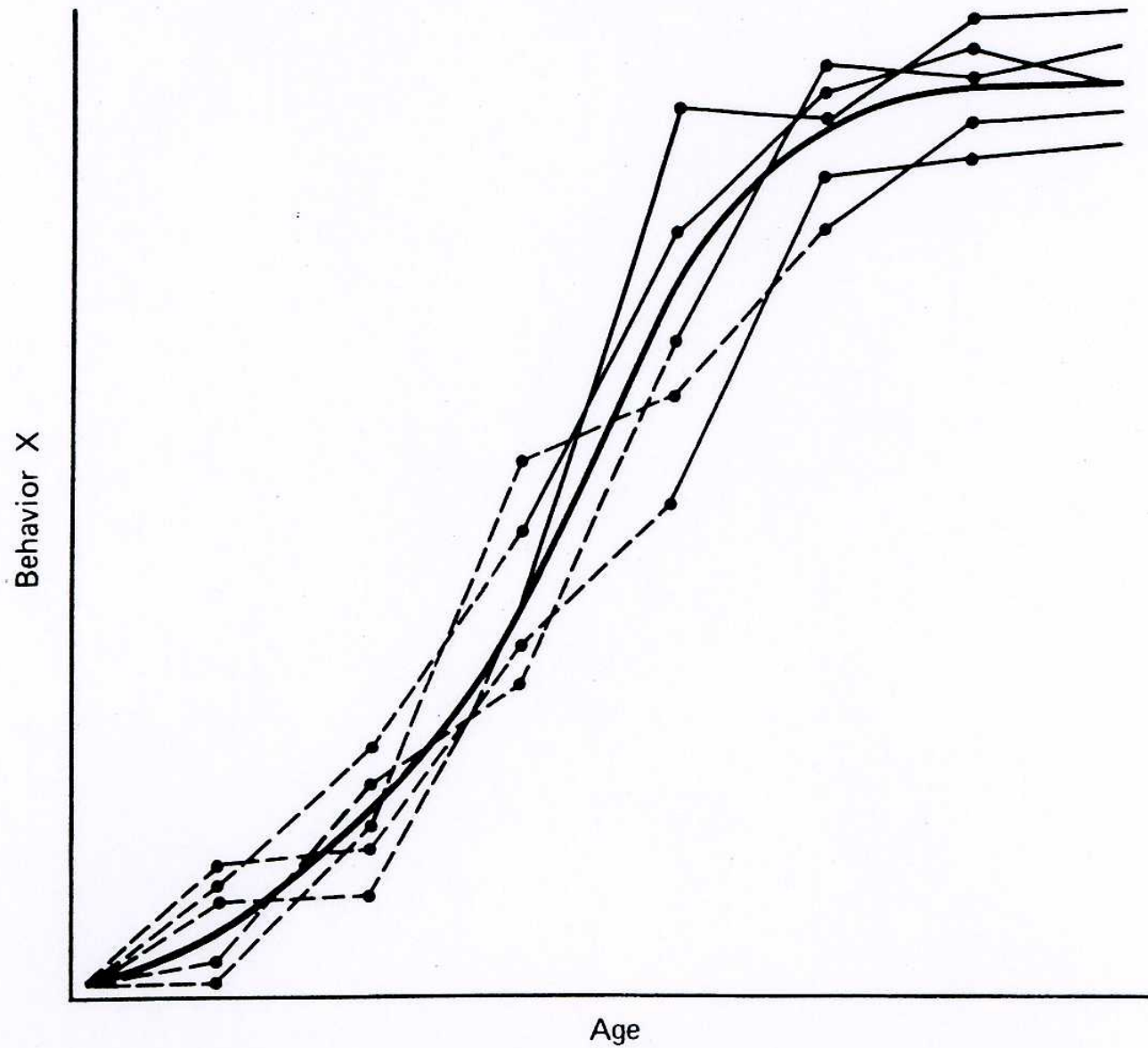
^aDecimal entries indicate median correlation, the numbers in parentheses give the number of different *r*'s and the number of independent studies used to calculate the median. In the case of more than one *r* per study, the median *r* for that study was entered into the calculation of the cell median. Marginal values indicate the average of the median *r*'s presented in that row/column.

Table 20-2. Age-to-Age Correlations for Childhood IQ from the Fels and Berkeley Longitudinal Studies; Fels (above) and Berkeley (below), Stanford-Binet^a

Years	9	10	11	12
9		0.90	0.82	0.81
10	0.88		0.90	0.88
11	0.90	0.92		0.90
12	0.82	0.90	0.93	

From McCall, R. B. Toward an epigenetic conception of mental development. In M. Lewis (ed.), *Origins of Intelligence*. New York: Plenum, 1976, 100. Reprinted with permission.

^aStanford-Binet age-to-age correlations for the Fels study above the diagonal (from Sontag et al., 1958, p. 28) and for the Berkeley Growth Study below the diagonal (Bayley, 1949, p. 183).



[From McCall et al., 1977. Reprinted by permission.]

Figure 20-1. Hypothetical plot of the development of behavior X for five subjects illustrating the developmental function (heavier line) and the stability/instability of individual differences (thinner lines).



*When you are content to be simply
yourself and don't compare or compete,
everybody will respect you.*

Lao-Tzu

The Wilson-Jungner criteria for appraising the validity of a screening programme

1. The condition being screened for should be an important health problem
2. The natural history of the condition should be well understood
3. There should be a detectable early stage
4. Treatment at an early stage should be of more benefit than at a later stage
5. A suitable test should be devised for the early stage
6. The test should be acceptable
7. Intervals for repeating the test should be determined
8. Adequate health service provision should be made for the extra clinical workload resulting from screening
9. The risks, both physical and psychological, should be less than the benefits
10. The costs should be balanced against the benefits

World Health Organisation 1968