Нарушение процессов ментализации у детей с расстройствами аутистического спектра и некоторые методики их коррекции

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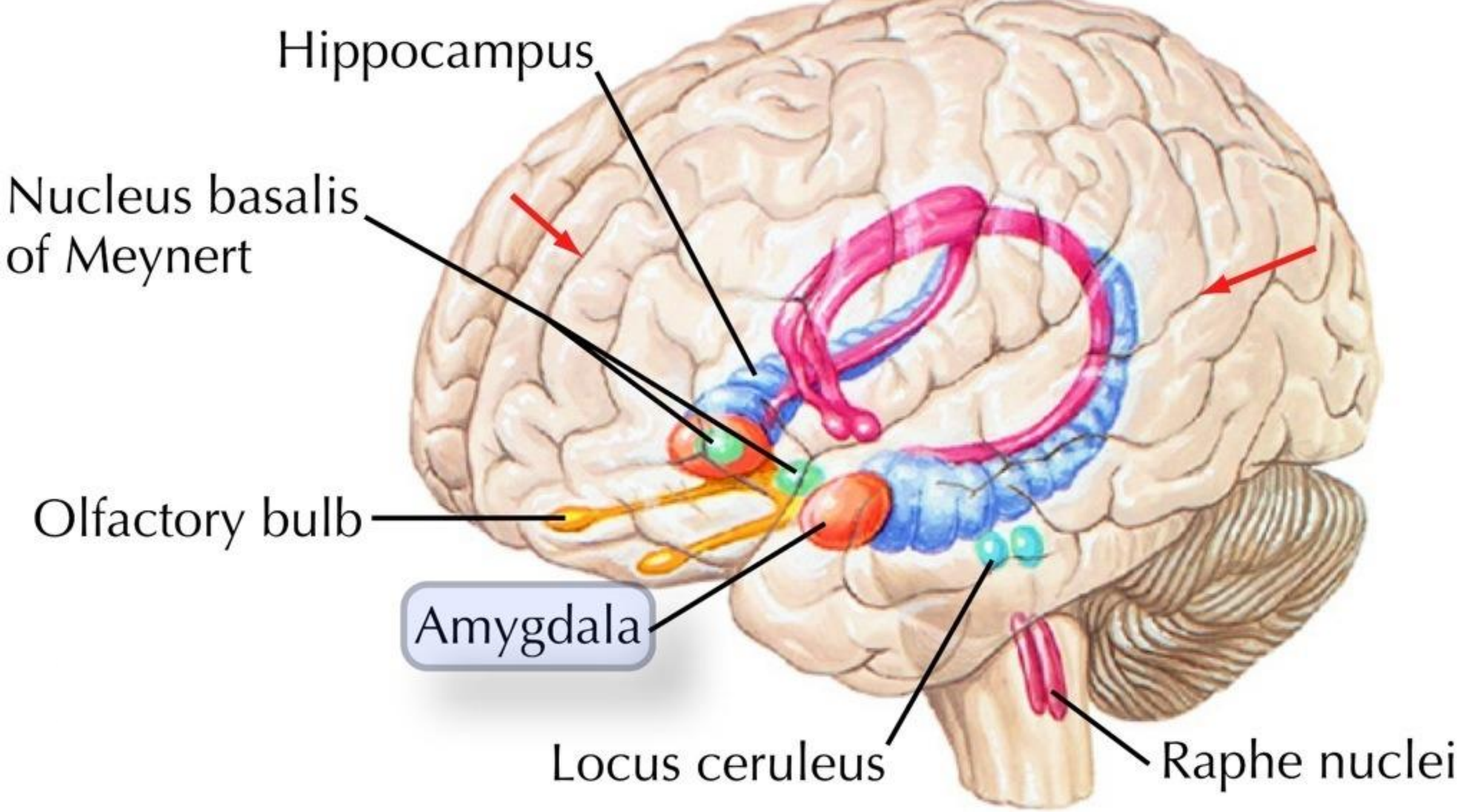
Питер Фонаги (14 августа 1952) британский психоаналитик и клинический психолог.

Питер Фонаги и его коллеги выдвинули детальную теорию о том, как способности ментализировать и регулировать аффекты могут определять успешное развитие человека. Они определяют ментализацию как способность создавать и использовать ментальные репрезентации своих собственных и чужих эмоциональных состояний.

Uta Frith

Ута Фрит (род. 25 мая 1941 года) — ведущий специалист по психологии развития. Основная сфера исследовательских интересов—аутизм и дислексия. Особую популярность обрела изданная в 2003 году книга «Аутизм: Объяснение загадки», посвященная когнитивной нейробиологии расстройства.


Hippocampus
Nucleus basalis of Meynert
Olfactory bulb
Amygdala
Locus ceruleus
Raphe nuclei

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Contributions of the Amygdala to Emotion Processing: From Animal Models to Human Behavior

Review

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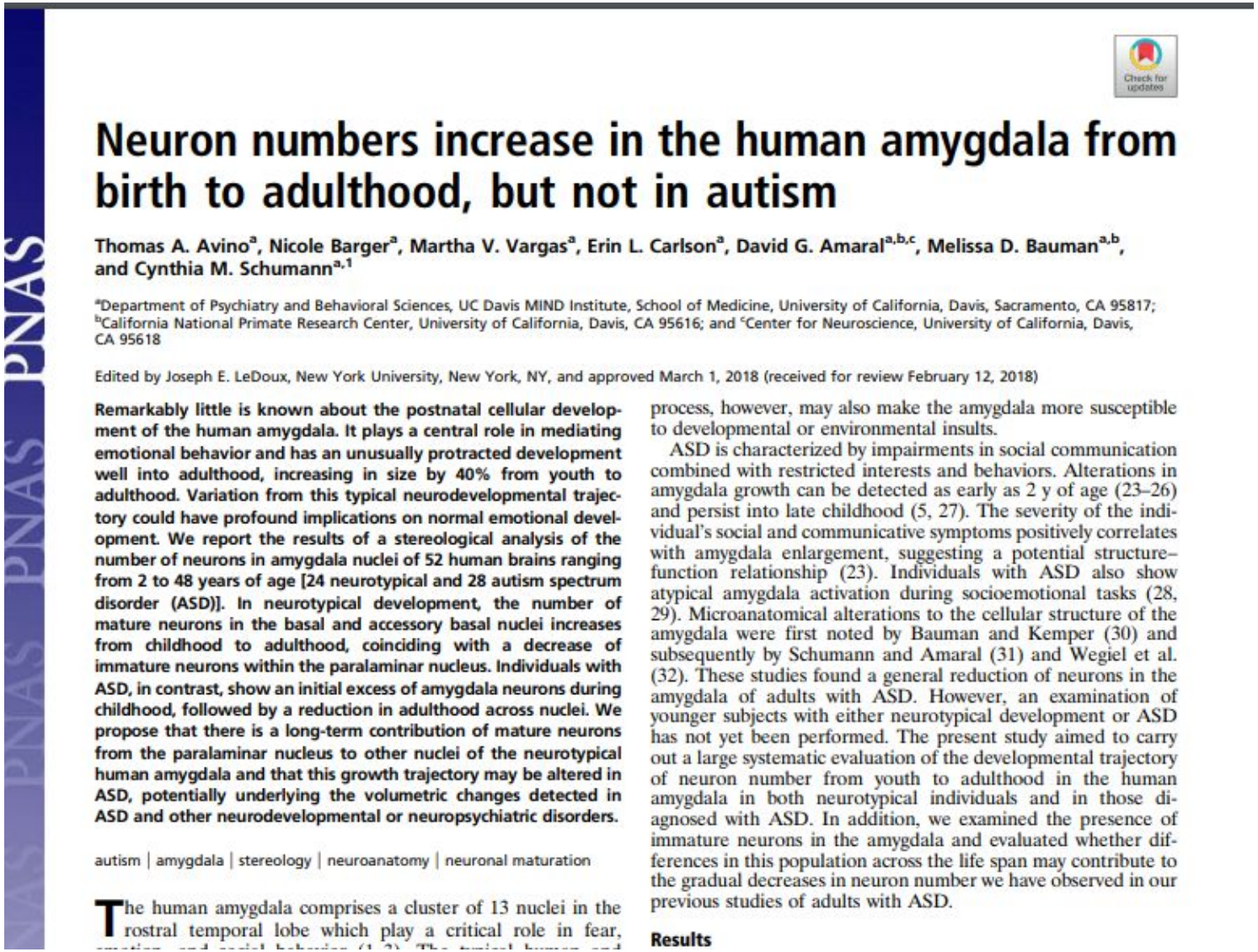
Research on the neural systems underlying emotion in animal models over the past two decades has implicated the amygdala in fear and other emotional processes. This work stimulated interest in pursuing the brain mechanisms of emotion in humans. Here, we review research on the role of the amygdala in emotional processes in both animal models and humans. The review is not exhaustive, but it highlights five major research topics that illustrate parallel roles for the amygdala in humans and other animals, including implicit emotional learning and memory, emotional modulation of memory, emotional influences on attention and perception, emotion and social behavior, and emotion inhibition and regulation.

Introduction

Over the past two decades, the amygdala has gone from a being an obscure region of the brain to practically a household word (the phonetic ring of the word "amygdala" was the subject of a piece in the *New York Times* recently). Although known to be involved in emotion for and Kandel, 1999; Eichenbaum, 2002; Schacter, 1996). Some of these function explicitly and give rise to our conscious memories, while others function implicitly and store memories that are accessed and used automatically, or unconsciously. Emotion systems in the brain are generally viewed as belonging to the category of systems that form implicit memories (LeDoux, 1996). This does not imply that memories for emotional situations are only formed implicitly, as other systems, such as the explicit memory system of the medial temporal lobe, can form their own memories of emotional situations. It instead implies that the memories formed and stored by emotion systems are implicitly stored and accessed. This is in fact true of most systems that store information. These systems are perhaps not best thought of as memory systems. Instead, memory and its underlying neuronal plasticity are features that allow such systems to perform their function (emotional control, sensory processing, motor regulation, etc.) more effectively (LeDoux, 2002; Eichenbaum, 2002).

Much of the renewed enthusiasm for studies of emotion in neuroscience has come from studies of emotional learning and memory, especially studies of conditioned fear in rats and other mammals (LeDoux, 2000; Walker and Davis, 2002; Davis and Whalen, 2001; Fanselow and LeDoux, 1999; Kapp et al., 1992; Maren, 2001). In this procedure, the subject is exposed to an emotionally neutral conditioned stimulus (CS), such as a tone, that is paired with an aversive unconditioned stimulus (US), such as an electric shock. An association is formed between the CS and US, and later

Phelps E.A., LeDoux JE. Contributions of the amygdala to emotion processing: from animal models to human behavior.



Neuron numbers increase in the human amygdala from birth to adulthood, but not in autism

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Edited by Joseph E. LeDoux, New York University, New York, NY, and approved March 1, 2018 (received for review February 12, 2018)

Remarkably little is known about the postnatal cellular development of the human amygdala. It plays a central role in mediating emotional behavior and has an unusually protracted development well into adulthood, increasing in size by 40% from youth to adulthood. Variation from this typical neurodevelopmental trajectory could have profound implications on normal emotional development. We report the results of a stereological analysis of the number of neurons in amygdala nuclei of 52 human brains ranging from 2 to 48 years of age [24 neurotypical and 28 autism spectrum disorder (ASD)]. In neurotypical development, the number of mature neurons in the basal and accessory basal nuclei increases from childhood to adulthood, coinciding with a decrease of immature neurons within the paralaminar nucleus. Individuals with ASD, in contrast, show an initial excess of amygdala neurons during childhood, followed by a reduction in adulthood across nuclei. We propose that there is a long-term contribution of mature neurons from the paralaminar nucleus to other nuclei of the neurotypical human amygdala and that this growth trajectory may be altered in ASD, potentially underlying the volumetric changes detected in ASD and other neurodevelopmental or neuropsychiatric disorders.

autism | amygdala | stereology | neuroanatomy | neuronal maturation

The human amygdala comprises a cluster of 13 nuclei in the rostral temporal lobe which play a critical role in fear, emotion, and social behavior (1–3). The typical human and process, however, may also make the amygdala more susceptible to developmental or environmental insults.

ASD is characterized by impairments in social communication combined with restricted interests and behaviors. Alterations in amygdala growth can be detected as early as 2 y of age (23–26) and persist into late childhood (5, 27). The severity of the individual's social and communicative symptoms positively correlates with amygdala enlargement, suggesting a potential structure–function relationship (23). Individuals with ASD also show atypical amygdala activation during socioemotional tasks (28, 29). Microanatomical alterations to the cellular structure of the amygdala were first noted by Bauman and Kemper (30) and subsequently by Schumann and Amaral (31) and Wegiel et al. (32). These studies found a general reduction of neurons in the amygdala of adults with ASD. However, an examination of younger subjects with either neurotypical development or ASD has not yet been performed. The present study aimed to carry out a large systematic evaluation of the developmental trajectory of neuron number from youth to adulthood in the human amygdala in both neurotypical individuals and in those diagnosed with ASD. In addition, we examined the presence of immature neurons in the amygdala and evaluated whether differences in this population across the life span may contribute to the gradual decreases in neuron number we have observed in our previous studies of adults with ASD.

Results

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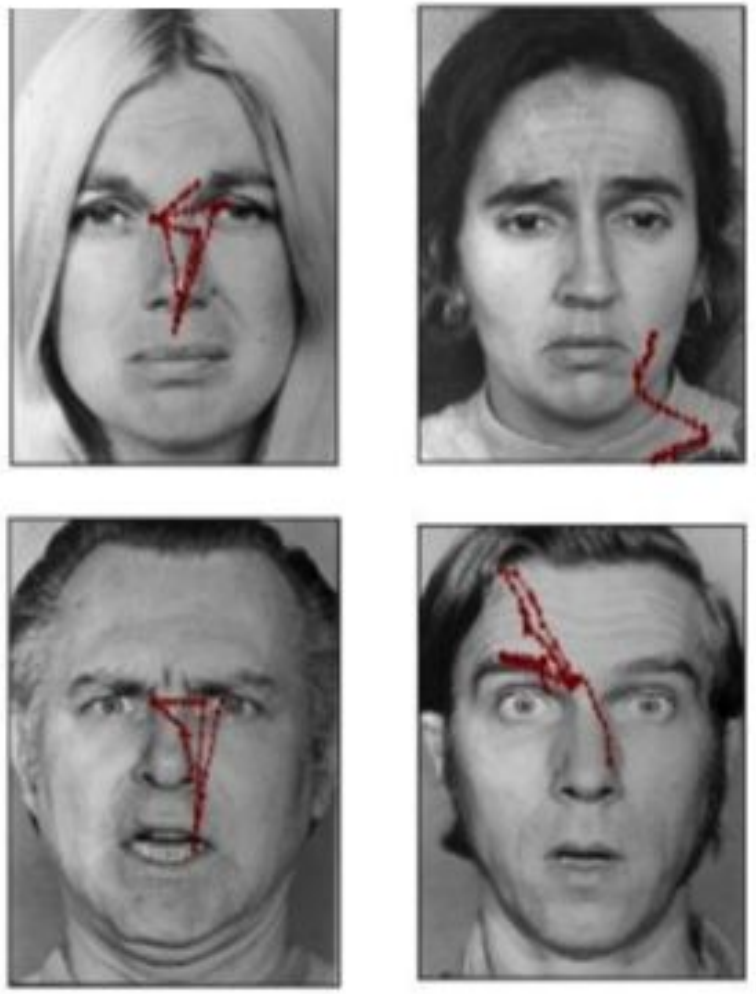
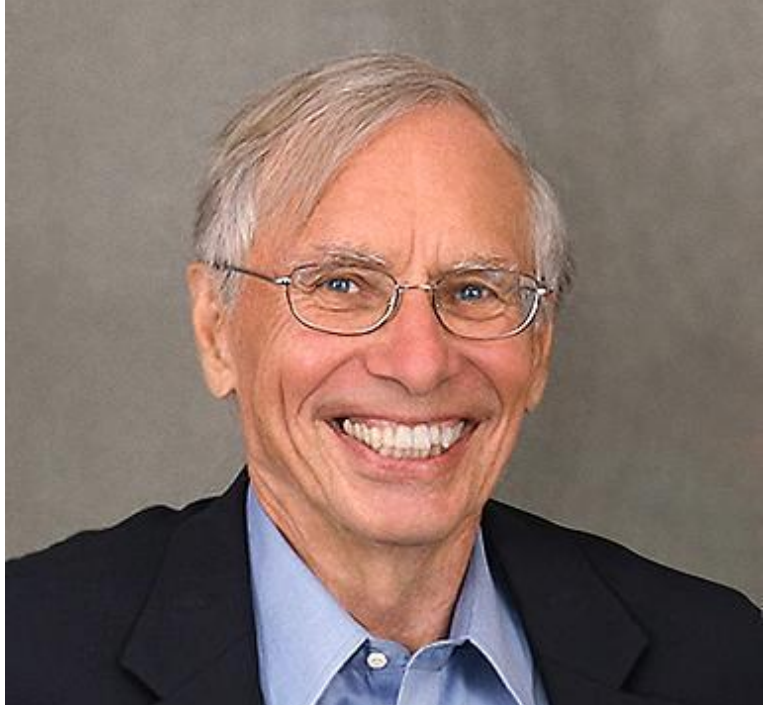


Норма Аутизм

Движение глаз при просмотре изображения у нормально развивающегося ребенка и у ребенка с аутизмом

Ole Ivar Lovaas

Оле Ивар Ловаас — американский психиатр. Один из основоположников прикладного анализа поведения. Опубликованное в 1987 году исследование Ловааса о лечении аутичных детей методами поведенческой модификации привело к сенсационному прорыву в области лечения аутизма, считавшегося до этого момента неизлечимой болезнью.



Stanley Greenspan

Стенли Гринспен (англ. Stanley Greenspan; 1 июня 1941 — 27 апреля 2010) — доктор медицины (M.D.), психиатр, профессор психиатрии, науки о поведении и педиатрии в Медицинском институте Университета им. Джорджа Вашингтона, практиковал как детский психиатр. Он наиболее известен благодаря созданию и развитию концепции DIR и подхода Флортайм — комплексного и эффективного метода психокоррекции расстройств аутистического спектра (РАС) и отставания психического развития у детей и подростков.

Елена Ростиславовна Баенская и Ольга Сергеевна Никольская

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