

It's hard to predict, especially the future

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Developmental effects of new interventions can never be predicted in advance. For example, more light or nutrition leads to more growth, or more attention or stress to better performance or concentration, only within certain limits, where there is a linear relationship between the independent variable (light, nutrition, attention) and the dependent variable (development, growth, performance). Without having observed similar development cases beforehand, it is unpredictable when one system state changes into another (water turns to ice on linear cooling, trot changes to gallop on linear acceleration). Therefore, effects of interventions can only be described on the basis of empirical knowledge. Though not an explanation, this knowledge may certainly be very accurate as a prediction. The problem is that we humans confuse description and explanation. But if water is "polluted" (for example by adding salt), it is no longer known in advance when the phase transitions take place. If a child has drastically different learning experiences than other children (for example from a previous generation, who did not yet have tablets available), the consequences with regard to transitions to new developmental stages can also not be determined in advance.

In case of developmental delays, in developments that we do not understand, we may think of special interventions. Think, for example, of children who seem to develop abnormally/poorly, but then suddenly show isolated special talents in the field of music, drawing or math (used to be called idiot savants). Various interventions have been devised in the past, behavioural therapy, EMDR, pharmaceutical treatment, etc. Such interventions are usually very well researched for both effect and safety, but we cannot know their effect in the event of anomalous development. Dynamical systems have linear and therefore predictable developments within phases, but also non-linear and therefore discontinuous phase transitions, which can only be recognized afterwards. Only afterwards, adequate prediction in exactly the same cases is possible. There is a paradox here: precisely when a development deviates from what we know, the need for knowledge and prediction is greatest, while in uniquely deviating situations predictability has become impossible. With regard to the example of extreme skills in a certain area (for example, being able to remember entire encyclopaedias) one no longer speaks of idiot savant, because it has been shown that these people often develop differently, but by no means always remain severely mentally limited in other areas.

Actually, abnormal psychology by definition has to do with a different (less well-documented) dynamic system development. Through experience with normal development, phase transitions - although not linear - are so predictable that we 'understand' them (almost) linearly. But experience-based prediction is more difficult in atypical (neurodiverse) development. Prediction gets even more complicated with technical innovations. In fact, many technological innovations – the internet, social media, challenges via TikTok, etc. – influence development at least as radically as 'invented' interventions, such as behavioural therapy or EMDR. In contrast to therapeutic interventions, however, this is often not or hardly thought about and no responsibility is taken for it either. This is very remarkable. For example, with the rise of social media platforms such as Instagram and Facebook, maintaining physical friendships (e.g. between adolescents) has become increasingly competitive with maintaining virtual 'friendships'. As a result, young people have sometimes become addicted to virtual approval from "friends", and so they have come to live for their virtual "messages in a bottle". For some this stands in the way of school success, others know how to combine it. But to get a new therapy registered, there are countless ethical (and scientific) procedures to go through, while Big Tech companies can bring everything to market and count on a warm welcome: technology is cool and the future! However, the effects of new innovations on human behaviour cannot be determined in advance linearly from what we think we know. That should become apparent after behaviour and innovation have come into a new configuration. And that is not always an improvement: It's hard to predict, especially the future!