Disfluency in typical and stuttered speech

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This paper discusses what happens when things go wrong in the planning and execution of running speech, comparing disfluency in typical speech with pathological disfluency in stuttering.

Spontaneous speech by typical speakers is rarely completely fluent. There are several reasons why fluency can break down in typical speech.People need to find time for planning or for accessing the right words, they need to repair errors, they are interruptedby other speakers or extraneous events: All of these can all lead to breaks in the flow of speech, or disfluencies. Various studies suggest that we produce disfluencies at a rate of around 6 per 100 fluent words, so a significant proportion of our utterances are disfluent in some way.

Around 1 person in every 100 has speech that is affected by stuttering. Stuttering can halt the flow of speech at a much higher rate than typical disfluency.While persons who stutterare also prone to the same kinds of disfluency as typical speakers, their impairment results in the production of other forms of disfluency that are both quantitatively and qualitatively different from typical forms. It is traditional for speech therapists to refer to the manifestations of the stuttering impairment, broadly, as *blocks, prolongations and repetitions.*It is notable that these disfluencies are usually accompanied by muscular tension, which is not usually the case in typical disfluency.In addition, other aspects of fluent-sounding speech (e.g., pitch, rate, voice quality)are also affected by stuttering.

In this paper, I give an overview of the causes of disfluency in both typical and stuttered speech and relate these causes to their articulatory and phonetic realisations. I show how typical and stuttered disfluencies differ in both their cause and their realisations.

While typical disfluencies are mostly influenced by cognitive issues in the planning of speech and only rarely by motor control issues, stuttered disfluencies result from a break down in the coordination of the complex motor commands necessary for successful articulation. Intriguingly, though, the frequency and severity of stuttering can be strongly influenced by psychological factors like emotional state.

In conclusion, we will see that disfluency can result from a range of different factors, from various levels of cognitive processing to motor control, and it can vary according to other factors, including memory, attention and emotion. But it should be emphasized there are different factors at play in typical disfluency and stuttered disfluencyand that stuttering is not simply an extreme form of typical disfluency.