Imagine a day in the prosthetics department and you have an exclusive oral examination session with your professor, irrespective of the country you are located, we all would have come across the following questions: which articulator should I use? How far are they adjustable? How much are they anatomical? Surely these questions for a moment would leave us puzzled….

We are in the world of growing technology, each and every day some new things keep up popping and dentistry is influenced by it. Virtual reality is one of such things and we all must have heard of it. If not to simplify things it is that technology which gives you an immersive feeling of virtual world in reality. Virtual reality dentistry provides us with so many tools ranging from mock surgery planning, predicting treatment results, etc. which help us to communicate better with our patients.

Articulation have been one of the most crucial yet an cumbersome procedure in dentistry because it deals with the intricacies of human masticatory system and whenever a new articulator or technology related to occlusion is developed, it is tested to find out how far they simulate the same. Virtual articulator in simple terms is a software tool that does articulation of your digital models. The basic algorithm of this technology was developed by Kordass and Gartner in 1999. There are basically two types of visual articulators: completely adjustable and mathematically adjustable. The latter is an average value articulator. The first part of algorithm is to obtain scanned model, it can be done either directly with intraoral digital scanning or
indirectly - scanning of the models that are obtained through the conventional impression techniques. Following scanning, we use a jaw motion analyser, obtain articulated models on our screens which can be simulated accordingly for various mandibular movements. With the evolution of facial scanners like Facehunter combined with T-scan we obtain instantaneous data on facial profile and occlusion which can be used for treatment planning and CAD-CAM milling of the prosthesis. So what about the future in this field? Virtual haptic articulators are currently in R&D, so it is basically newer evolution where you will have haptic feedback.

So is virtual articulator a reality or replacement? Even though with strenuous concentration and hard work small amounts of errors tend to be present when we manually orient and articulate a cast, in the upcoming era of digital dentistry virtual articulators will be the key to success and help us to get closer to the beautiful world of human masticatory system.

I would like to thank and offer my gratitude to Late.Emeritus.Prof.Dr.E.G.R.Solomon

Esraa Mohammed / Sudan
Srinivasan Narasimhan / India