17.1988.Chicago Midwinter. CDS.88.Impérial Ballroom et Ogden Room # 1

This film was totaly made by Michigan University without help of Hennson Inc. **(on live 60 min, V GB)**

This is the first live presentation of the Hennson material on North American soil **at the Michigan Dental University's Chircago Midwinter meeting**. Planned for 1,000 dentists (Imperial Balroom) approximately 5,000 dentists followed this presentation on 21 February 1988 (see « Press » 1988 congress &publication on my Web site).

The first part went well, but the fatigue (I had to speak for the first time in English), the questions too numerous for my very primary English (I had trouble understanding in the pressure of the conference) and the constant delay in presentation of the slides (my prosthetist/partner was still 1-2 minutes late???) ended up tiring me in the second hour.

The fact remains that this presentation was crucial and that **the equipment worked very well**.

In particular, it should be noted that:

At 05' 00 (5 minutes) the coating, occlusal **view with bitten and correlation spheres** for the first time. We had abandoned in 1986 the optical clay for the mordu (whose idea will be repeated in the Cerec in 2000), abandoned the correlation using the grooves and cuspids or 1 black dot on a white plane (because it was less precise than these spheres of 2.5 mm at the time- see patents) and re-adopted the **use of the coating announced in 1982** to achieve a good contrast therefore a good accuracy (the new Chicago 512x512 CCD with its **250,000 pixels per view** allowed us to achieve in 16 views of the preparation and adjacent teeth the **impressive number of 4 million points**).

It will be taken in Chicago 9 views of the 3 teeth of the preparation : here image processing and correlation of 9 views x 250,000 pixels or 2, 250 million points! for 3 teeth against 125,000 points (versus a single view of a tooth in CEREC 1). To this it is necessary to add 2 views of the occlusal surface of the antagonists taken in relation centered through the intermediary of a bitten (It is noted that the antagonistic sight biter uses the same 3 spheres which allows us to be sure that the antagonistic teeth its well in relation centered on the preparation).

(A 15'00 min) is indicated by the dentist the reference points for the modeling software (bulge, contacts, groove and cuspids) that will allow the artificial intelligence software to build the future crown.

(A 20'00 min) we show that the software accepts only the cuspids valid for the occlusion (the expert system rejects any cuspid that is not part of the occlusion) then we draw the finishing line (with zoom). We also see here the difference between Cerec1 and the Hennson/duret system: the Cerec took only one view with parallel radiation while the Duret system could take up to 16 views of 3 to 4 teeth using a conical projection that the image processing software was able to correct (like the current projector videos). This explains why the tip of the Cerec 1 IOS was larger than the tip of the Hennson IOS.

(At 32'30 min) we demonstrate a precision close to 25 µm of our profilometry phase.

(A 37'30 min) we are talking about the revolution that dental CadCam brings to medicine (as was the case with anesthesia. Let us not forget that we are in the USA, cradle of anesthesia)

(At 45'00 min) trace and correction of the finishing line on a virtual die

(A 47'00 min) presentation of the cement space and the cement-free zone close to the finishing line (here 1 mm and 500 µm) and then at 55' visualization of the preparation on a virtual die.

(A 58’00 min) presentation of all theoretical teeth in the library.

(At 60'00 min), automatic environment adaptation.