

known the age of the cut ; we have not accurately known the formula. If we are going to make out what a given amalgam will do we cannot do it in that way. One of these is the Fellowship alloy, which Dr. Crouse handed us a few days ago to test. We didn't do it until we came here. I made a filling of it. He told me he had annealed that alloy more than usual in order to make the working properties better, and he wished a test made of it. It shrank $1\frac{1}{2}$ points. It is just possible, with a good light, with the binocular microscope, to see that there is the least breaking of the margin. The Frost White expanded $1\frac{1}{4}$ points, which we generally regard as not very bad. I give these just haphazard as they come. Tube V shows a shrinkage of $9\frac{3}{4}$ points. The alloy was fine cut. Tube AE, supposed to be the same alloy, shows a shrinkage of $\frac{1}{4}$ point and an expansion of $\frac{3}{4}$, an excellent filling. Tube CM packed dry on the bottom and wet on the top shows a shrinkage of 1 point and an after expansion of $2\frac{1}{2}$ points. This was fine cut. Another tube, CF, shows an expansion of $2\frac{1}{2}$ points. These two were made, I believe, out of the same bottle of alloy, but were made with different manipulation as a test. In one the amalgam was packed very dry in the bottom and very wet at the top ; in the other, I believe, packed as usual. There is no difference in result. Now, all four of these fillings are supposed to be made from the same alloy, and one has shrunk badly, the others have not. Now, here is one that I have brought with me on purpose for an illustration of the changes that occur in alloys. And mind you, gentlemen, the point that I wish to make, and that I wish you to understand before I am through, is this: That you may have an alloy that will make a perfect filling to-day and an imperfect filling next week and a still more imperfect filling in six months from now, and it may sit in your drawer tightly corked in the bottle the whole time, except you take some out to make a filling. That is, it does not remain one thing two days together ; that it is continually changing until a certain change has been brought about, and that certain change I wish to illustrate with this alloy. The alloy was made by the S. S. White Manufacturing Co. and sent to me in ingot. I cut from that ingot two and a half years ago and set the bottle away in my drawer corked, and marked the remaining ingot. It was with that bottle that the first filling was made. It was followed with the microscope until it had shrunk $6\frac{1}{2}$ points and was then found to be loose and shaking in the tube. The next filling was made by Dr. Reade who filed from that ingot from which the first was made. He filed enough for two fillings. Then after mixing it and sifting it he divided it in half. One half he placed in a small glass flask and placed that flask in boiling water for fifteen minutes, thus annealing the alloy. The shrinkage in that tube as shown by the micrometer was 8 points. It did not