

Starting from a base looking towards the approaching caries or other irritating causes, they seem to penetrate the chamber, throwing forward projections in the direction of each canal in the roots of the tooth. Also, I would mention those deposits found in the chambers of the teeth of older persons when abrasion from the work of mastication has resulted in wearing the teeth to the gums, perhaps. In this class the canal seems to be in many cases simply closed up from the deposition of calcific matter upon its walls surrounding the pulp, until the whole cavity is filled and the pulp disappears entirely. As a last class I would mention what seems to me to resemble more than any other class a real case of calcification of the pulp. These are found in the teeth of very old persons, in which I have found the pulp to assume the appearance of the pith of a goose-quill but to possess a firmer structure, being more like a piece of the quill itself.

In all classes but the last two, those specimens which I have discovered and now have to exhibit, on being removed from the chamber and canal, were enclosed or surrounded by the pulp or the sheath of the pulp, except at the base where they were perhaps attached to the dentinal wall of the chamber. The sheath seemed to remain intact, even when the deposit had penetrated the canal nearly to the apex of the root, and when inflamed from any cause whatever (which inflammation is the usual cause of the trouble leading to the discovery of the deposit), this sheath is intensely sensitive to approach and is often possessed of a very tenacious vitality, resisting the action of arsenic and cocaine, and requiring several applications to overcome its sensitiveness.

The structure of these deposits seems, according to the opinions of leading histologists and microscopists, as Miller, Black and Iszlai, to differ, sometimes being organized similar to dentine, sometimes resembling cementum and sometimes bony in structure.

It would appear to one less skilled in histological knowledge of these parts of tooth structure, that the particular formation of these deposits depends upon that portion of the odontoblastic cells retaining most vitality and receiving the necessary stimulus which may be either local or systemic in character. The writer is also led to conclude that these deposits are the result of nature's efforts to repair an injury either received or threatened, and that they are really of a physiological character, and that any irritation which may render sensitive this monitor of the dental organization, the pulp, may engage its reparative function and cause, in many instances, a deposition of calcific matter upon the walls (or within them) of its habitation somewhere in the direction of the irritation, and this matter may be organized in the shape of dentine, cementum or bone, the morphological differences between these elements of tooth structure being very slight; and when we remember that they all originate in the cellular matter of the dental papilla, it is