

found on the investiture of Mexico and Peru by the Spaniards, is a thing that is universally known and believed. Now as the Aztecs, or rather the Toltecs, whom the Aztecs subjected, were well advanced in the fine arts, is it too much to imagine that they were considerably advanced in metallurgical science, so far advanced as to enable them to have such a process? or how account for the enormous amount of metal that was in the country, as the present appearance and present existence of free metal in Mexico are not favorable to the theory that these metals were extracted by the Toltecs, and after them the Aztecs, from ore containing the metals in the free state? The objection may be made that for these ancient peoples to have had this process they must have mercury, to this the answer may be made that there are more deposits of mercurial ore in that country than is supposed, and these people would undoubtedly know how to reduce it, as at some of the localities it is found in the native or metallic state reduced by internal heat; but at the best this is merely a suggestion, and the existence of Vannocio Biringuccio's treatise which is identical in its principles with the Patio and published 26 years before the said introduction into America of the process is rather against it, and rather leads to the conclusion that it was long before known in Europe. It is unnecessary for me to describe *in extenso* the Patio process or Gallero process, as it is called in some parts of Mexico, as it has been exhaustively treated of by many metallurgists, among others Alonzo Barba, in his work published in 1639, and during this century by such as Philips and Dr. Percy; indeed, the section of Dr. Percy's work devoted to this process is the most complete extant. I might be allowed to add that there is an indiscriminate use made of the words *Arrastra* and *Tahona* by most authors in describing this process; *arrastra* is the name used when the motive power is given by mules harnessed to the arm, and *tahona* is used when the motive power is water—although when in Mexico three years ago I asked the name that was given to the *arrastra* which was in the Government mint at Guadalajara, and which was driven by steam, and was answered that it was an *arrastra*.

I might also say I noticed while in Mexico a thing which is not mentioned, at least I have failed to find it in any of the works at my command, and that was the use of men instead of horses in the Patio process. These men that tread the ore are called "Repasadors," and received four reales (4), about fifty cents Canadian or two shillings one penny (2s 1d) British, for every six (6) *cargas* (equal to (1800) eighteen hundred pounds avoirdupois) of ore which they amalgamated. Their motions are peculiar and indescribable, and require to be seen to be understood; the body is held erect, the right hand grasping a staff, or if a staff is not used to steady, the arms are swung in unison