#### Gold Test.

A good test for gold or silver is a piece of lunar cauatic, fixed with a pointed piece of wood. Slightly wetthe metal to be tested, and rub it gently with the caustic. If gold or silver, the mark will be faint; but if an inferior metal, it will be quite black. Jewellers who purchase old gold often use this test.

### Paste for Labels.

A good paste for fixing paper labels on tinned sheet iron may be obtained by preparing a paste from water, rye flour, and a small quantity of a solution of glue, to which add as much of Venice Terebinth as to fit it for brushing over the labels, which will adhere closely to the tinned surface and will not be affected by moisture.

#### To Petrify Wooden Objects.

Take equal quantities of gem-salt, rock-alum, white vinegar, chalk, and pebbles powdered. Mix all these ingredients; there will happen an ebullition. If, after it has ceased, you throw some wooden objects into this liquid, and leave them soaking for four or five days, they will be transformed into petrifactions.

# Selected Articles.

## SCHOOLS OF ART.

At a large and influential meeting held for the purpose of establishing a School of Science and Art for Saliebury. Mr. Buckmaster spoke to a resolution which was intended to give him an opportunity of developing the whole scheme of the Science and Art Department with reference to instructions in science and art. After giving a sketch of the rise and progress which had attained the formation of evening classes, he said: The true connection between science and art has never been sufficiently recognized. Leonardo da Vinci is only known as a painter, but he was equally great as a scientific man. He was one of the early practical reformers of science, and wrote thirteen volumes on pneumatics and hydraulics, which gave the earliest indication of that system of inductive philosophy with which the name of Bacon is associated. His great contemporary and rival, Michael Angelo, was also thoroughly acquainted with all the then known sciences, especially those of geometry and mechanics. Phidias not only sculptured the statue of Minerva and the frieze which adorns the Parthenon, but he also superintended its building and gave lessons on the sciences involved in its construction. (Hear, hear.) Egypt, Assyria, Judea, Greece, and Rome have left us an unwritten history in their architecture, but the dawn and spread of Christianity was marked by the rise of a new era in art, which embodied the great ideas of sacrifice and hope, the noble expression of a great spiritual revelation, to which heathenism had succumbed, leaving to posterity the records of transcendant intellect in the Gothic churches of Europe and the masterpieces of art preserved in the Kensington Museum. (Ap-

plause.) If we go back only a few years we can call to mind one who never saw science without art, or art without science-who considered both as the great power by which the progress of humanity and civilization was to be advanced in this his adopted country. In his public speeches the Prince Consort alluded constantly to this idea. He seized every opportunity of inculcating the necessity of science and art as the two great manifestations of cultivation and social refinement. The accurate representation of any natural object on a plane surface requires the combination of two elements-the one scientific, the other artistic. The scientific consists in the proper disposition of lines geometrically determined, the artistic in that soft gradation of tone which distance furnishes in nature. The connection between science and the art of painting does not begin till about the 15th century, and it was not till 1731 that the mathematics of perspective was demonstrated. From the time perspective was reduced to certain scientific principles and accepted by art they were adopted as a necessary part of art education, and no student in any of our art schools would now produce a work which a few centuries ago would have been regarded with favour. The Assyrians and Egyptians in their pictoral representations are utterly indifferent to everything that relates to distance. The Chinese, so exquisite with reference to the colour of natural objects, cannot put the lines of a building according to the correct laws of perspective, and this was the kind of painting of all nations until the science of geometery developed the art of perspective, and from that time the art of painting was reduced to correct principles. could show in the same way the relationship of geometery and mechanics to the art of building; and that many of the most beautiful curves and ornaments in Gothic architecture are to be found in Fossil shells. All those natural and passionate emotions which had their outward expression in the altered muscular forms must have been carefully observed by the eye of the Grecian sculptor. He may not have had the opportunity of studying anatomy and physiology as we understand these His knowledge of internal structure was sciences. obtained from what he saw without. The death struggles of the athlete in the amphitheatre was the science school in which he studied. (Applause.) Galen was obliged to infer the anatomy of the human body by the dissection of a monkey. Modern sculptors and painters have opportunities of studying calmly the dissected body or casts taken from it. The higher departments of correct art are no doubt intimately connected with science, but elementary drawing ought to form part of the education given in primary schools; it is easily acquired; it is, in fact, an amusement to children. and contributes to good writing, it quickens the faculty of observation, it educates the eye to judge correctly of the distance and magnitude of bodies, to appreciate the beauty of natural forms; it is an element of cultivated and refined taste; it gives precision and skill to the hand, improves the memory, and enables a person to understand at once drawings of tools, utensils, furniture, machinery, plans, sections, and the power of representing them. All this may be taught without much science in our elementary schools and this kind of