

Trade Diseases—Continued

This gives rise to Crudities, great plenty of Flatus's, a Paleness and Meagreness all over the Body, the Parts being rob'd of their nutritious Juice; and in fine, all the Dammages that follow a *Cacoehylia*, or faulty Chylification. Accordingly we find, that Studious Persons, tho' naturally of a jovial merry Temper, do in process of time become Melancholy and Heavy. We may say commonly, that Melancholick Persons are Ingenious; but we have more Reason to say that Ingenious People turn Melancholick, the more spirituous Part of their Blood being consum'd in the Exercise of the Mind, and only the earthy drossy Part left behind.

I do not deny, but that this Disorder may be considerably promoted by a Temperament of the Body that tends gradually to Melancholy, with a moderate mixture of the other Humours. *Ficinus* in the Book he writ for the Benefit of Studious Persons, gives several Reasons why Learned Men grow Melancholick, some of which he takes from natural Philosophy, and others from Astronomy, which was his chief Study; but all of 'em run upon the violent Motion and Dissipation of the Animal Spirits, that makes the Blood Black and Thick. We conclude therefore, that Learned Men are commonly subject to Melancholick Fits, especially if they are naturally of such a Constitution: And accordingly we find the thorough paced Scholars are Thin, Lean, wan Colour'd, Morose, and Lovers of a Solitary Life.

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A five-passenger airplane will be used by the African hunting expedition of Baron Louis de Rothschild, to conduct the party quickly from Alexandria to Nairobi.

An earthquake in New York State recently proved useful when it loosed several underground streams and filled reservoirs with much needed water.

The first parachute demonstration in America was made in 1837 in Philadelphia by John Wise, who released a cat and a dog with two small parachutes.

A 40-ton stone bull which guarded the palace of an Assyrian king, 800 B. C., is now to stand guard in the Oriental Institute of the University of Chicago.

Airplane Camera Reveals Hidden Canals

Archæology

AN elaborate system of canals built by Indian engineers somewhere about 1200 A. D., and now almost entirely lost to view, has been successfully mapped by the penetrating eye of the airplane camera. The mosaic map of what might be called invisible ruins was made from a U. S. Army plane and by an army photographer. Neil M. Judd, archaeologist of the U. S. National Museum, supervised the aerial survey over the Gila and Salt River valleys, in Arizona.

Preliminary reports from the army officers reassure Mr. Judd that the photographs achieved their purpose, though the work of developing and arranging the negatives is not complete. The pictures were taken from an altitude of about two miles.

The magic ability of airplane photography to bring back into existence the plans of vanished buildings surprised the people of England when Major O. G. S. Crawford showed that his air pictures could record the plans of Roman towns and fortresses long since plowed over. Now, Mr. Judd has shown that the same magic works for America's prehistory.

Only forty years ago, the lines of 400 miles of the prehistoric canals and laterals could be seen in central Arizona. Now, not more than 40 miles of this remarkable engineering work can be observed from the ground. The land which the Pueblo Indians irrigated so that they could raise their corn, beans and squashes is now green with alfalfa, citrus and date groves, fields of lettuce and cotton. The Coolidge Dam stores water for much of this farming.

The plan to study the Indians' system of irrigating this region was proposed by Senator Carl Hayden of Arizona, Mr. Judd stated. Last summer Senator Hayden noticed that where Indian reservation land was being prepared for irrigation the workmen were pulling up cactus, mesquite and other growth at the rate of twenty acres a day and filling in the ancient canals. He felt that some record of the old American engineering should be quickly made.

In many cases an airplane observer 2,000 feet up can see with his own eyes the course of the old canals, Mr. Judd found. Describing these observations and his study on the ground, Mr. Judd stated that the engineering of the Indians was sound. Their ideas were so sound, indeed, that many of

the modern canals of the region, dug with steam shovels, have followed the same contours and approximately the same gradient. The Indians had to dig their canals with nothing better than stone tools and sticks. The loosened material was carried off in baskets. They had no metal, no beasts of burden.

Both the Pueblos and modern engineers have followed the same course of constructing canals and later abandoning them in favor of new ones, Mr. Judd explained. From the air it was possible to find points where one of the early Indian canals was cut across by a later one.

White settlers who first went into the Southwest made good use of the Indian engineering plans. One Mormon group which settled near the town of Mesa in the eighteen-seventies dug a canal in one of the courses set by Indians many centuries before, and a part of that canal is in use today, Mr. Judd said.

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Mining Hazards

Coal miners are not the only men who work under the ground in great danger to life and limb.

Metal miners must face a far greater variety of dread gases than coal miners, the most important of which is carbon monoxide, which strikes without warning and with uncanny fatality, D. Harrington and E. H. Denny, two experts of the U. S. Bureau of Mines, said.

"Some of the heaviest losses in metal mine fires have resulted from the burning of less than a railroad freight car, or only a few cords of timber," they said. The deadly fumes given off are sufficient to kill several hundred men if trapped in poorly ventilated places so frequently found in the relatively well ventilated metal mines.

Workers in tunnels and excavations for deep foundations need protection, too, they claimed. "It is high time for drastic action that will put such work on a higher plane as to safety, with particular reference to lighting, use of electricity and ventilation," the experts said. Methane, formed from wood in contact with water, and carbon dioxide, resulting from the decay of wood, are the chief dangers here.

Mining

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