

fact need not lead to the conclusion that the function of insulin is to convert the sugar reserves of the body into pentose derivatives.

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Fixation of Human Embryological and Cytological Material.

It is known that it is very difficult to obtain well-preserved human material. Few medical men realise that five or ten minutes after the tissue has been removed, or after death, plasmolytic changes supervene, and in the fixed and stained sections the chromosomes have clumped badly, and the delicate lipid cytoplasmic organellæ have become abnormal, or completely macerated. Recently, I have been studying certain human material, and find that nearly every type of histological preparation can be made from two fixing fluids as follows: one of the surgeon's assistants is given two bottles, one of Da Fano's cobalt nitrate formalin fluid, and one of Regaud's formalin-bichromate fluid. Pieces of tissue as large as the thumb may be thrown into these bottles, and afterwards cut into smaller pieces when they have been brought to the laboratory. It is better to change into new fluid at once, especially if the organ is very vascular, and the fixing fluid mixed with blood.

For human material I find that fixation overnight in the Da Fano fluid gives the best results. Next morning some of the pieces are taken through as usual for Da Fano's method ("Microtomists' Vademecum," p. 437), but other pieces are washed in distilled water for ten or fifteen minutes and transferred some to 2 per cent. OsO_4 , others to Champy's fluid (chromeosmium). The OsO_4 pieces are used for the Sjövall method (*ibid.* p. 331). From this batch of material, originally fixed in Da Fano, one gets sections which generally show the inner Golgi apparatus (Da Fano and Sjövall), the mitochondria (chromeosmium and sometimes Sjövall), neutral fat and lipoids (chromeosmium), and general nuclear structures and mitochondria (Da Fano fixation, staining in iron hæmatoxylin).

The other batch of material, fixed in Regaud's formol-bichromate, is partly carried through for the Regaud-Bensley-Cowdry method (*ibid.* p. 324), but other pieces of tissue are taken through Schridde (*ibid.* p. 325). These methods give the mitochondria (Regaud), mitochondria and fat (Schridde), and such sections stain nicely in safranin—light green, and in Mann's methyl blue eosin. For secretion and excretion granules, zymogen, yolk, fat, Golgi apparatus, and mitochondria, these two batches of material will give complete results.

For chromosomes, a batch of material in some Bouin formula (*ibid.* p. 306) is recommended.

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Linnean Nomenclature.

IN the admirable review of Dr. Daydon Jackson's "Linnæus" (*NATURE*, November 17) there is one paragraph (last on p. 715) from which I am not sure that I extract all the meaning. This may be because I am a systematic zoologist and not a botanist; but I did begin my work on those lines with the study of Linnæus's "Philosophia botanica." That book taught me that the *nomen triviale* was no entity, merely a part of the *nomen specificum*, which consists of the

nomen genericum qualified by the *nomen triviale*. Thus, "man" being the genus, "a good man" is the species; but "good" cannot stand apart from "man," for it is relative to "man" alone. Now take your good man and make him an admiral; he may be a bad admiral. Is that what the reviewer means? Does he imply that, if a species be rightly transferred to another genus, the *nomen triviale* is open to change? If this be his meaning, then it seems to ignore the distinction between a mere name and an epithet. When Jane Smith marries John Brown, she becomes (by custom) Jane Brown. She may thereby even change her nationality, but she remains Jane, and that is how we identify her, although "Jane" by itself is meaningless.

What then, some of us are asking, are the "philosophical positions" from which we have retreated; what are the "sound scientific principles" we have abandoned?
F. A. BATHER.

I REGRET to learn that one of my remarks has proved obscure to zoologists. A note by Linnæus that *nomen specificum sine generico est quasi pistillum sine campana* is accompanied by a cross reference to the denominational canon *nomen specificum sine generico est quasi campana sine pistillo*. The generalisation of the exemplar lends emphasis to the axiom embedded in the canon. That axiom was almost universally accepted by botanists in Great Britain until 1905, when representatives of their science, in international congress assembled, decided by a majority vote that the two portions of a *nomen specificum* may receive differential treatment. I am satisfied that, in reaching this conclusion, the botanists who constituted the majority when that vote was taken abandoned sound scientific principles and retreated from a philosophical position secured by Linnæus for botany. It may be that zoologists regard as justifiable the botanical practice which ignores the axiom accepted here until 1905; if so, there is no more to be said. But, that further misunderstanding be avoided, I may explain that I accept the principle of government by majority: whatever be the merit in civic life of conscientious objection and passive resistance, I regard both as unsuitable methods in descriptive science. This does not deprive me of the right, when dealing with the teaching of Linnæus, to express my conviction that the practical application of a particular Linnean canon which prevailed before 1905 was sound, and that the alternative practice, which obtains in botany to-day, is less satisfactory. I may add that I have not had in mind any of the methods in use in the denomination of individuals, but the teaching of an English naturalist, contemporary with Linnæus, in respect of analogous reasoning.

THE REVIEWER.

Bessemer Steel.

IN a review in the issue of *NATURE* of November 17, p. 716, of the second volume of Roscoe and Schorlemmer's "Treatise on Chemistry," the following sentences occur:—"The revisers have been perhaps a little too careful in retaining old matter in the text. The full details which are still given of the Leblanc soda process and of the Bessemer process for steel are really of historical interest only now that the last Leblanc plant and Bessemer converter have been shut down."

I have consulted the Statistical Bulletin of the National Federation of Iron and Steel Manufacturers, which gives the official figures of steel production in Great Britain at the present time, and I find that in