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COVER: Bombardier beetles protect themselves with an accurately aimed explosive spray of hot, irritating chemicals. By coupling an electronic flash unit to a microphone, so the pop of the explosion triggers the picture, Cornell biologists have photographed the ejection in full detail. See story p. 330. (Photo: Thomas Eisner and Daniel Aneshansley)

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LETTERS

Out of the closet

I was not surprised to learn that Auerbach et al. found significant differences in lung cancer mortality among smokers of low-tar cigarettes (SN: 3/17/79, p. 168). What has always puzzled me, however, is the incredible fact that the Surgeon General's research team did not (it would appear) collect and analyze similar data in arriving at its ominous conclusions. Most of us who smoke are well aware of which brands produce the most obvious respiratory complications. It is high time that investigators—in the public interest—come out of their "closets" and begin to name the high-risk brands. Or would that be a violation of Free Enterprise and the Fair Trade Laws? Heaven forbid!

Bradford Wilson, Ph.D.
New York, N.Y.

Dialectical thinking

I have just had the pleasure of reading "Einstein: The Gourmet of Creativity" by Joel Greenberg (SN: 3/31/79, p. 216).

At last, the necessity for so-called Janusian thinking is being more widely recognized. I say so-called Janusian thinking because, when Engels promulgated it in the 19th century, he called it *dialectical* thinking.

I would like to add that physical "oppositions" are not only possible but are ever present and account for the development of things as a result of the "struggle" between opposites or opposing tendencies.

Had Newton and Huygons been consistent dialectical thinkers they would have had no difficulty in accepting the conjecture that light is both particle and wave. The judgments that microparticles are both particle and wave or that space-time is both continuous and discontinuous are evidence that the material world is dialectical and needs to be reflected and studied by dialectical thinking.

Saul Birnbaum
Bronx, N.Y.

Filling a need?

Entrepreneurs espouse the action, "find a need and fill it." This is what the American University of the Caribbean School of Medicine is attempting to do, while "... the government is encouraging medical schools to cut their enrollments" (SN: 3/10/79, p. 153). AUC should be praised and supported for their actions, which would increase the number of physicians, extend medical services to deprived areas and reduce waiting room time and medical costs.

Meanwhile, the government should reverse its policy by encouraging the formation of additional high-quality medical schools and then let the supply-demand forces determine the number of medical students, a process employed with other professions such as engineers, scientists and lawyers.

Allan B. Schwartz, B.Ch.E., M.S.
Cherry Hill, N.J.

Withholding judgment

I feel like saying to Dr. Soupart (SN: 3/3/79, p. 131), judge ye not, lest ye be judged. We began studies on the living human ovum in 1951 with some 30 papers published and an atlas. Photos have been used by practically every leading publishing house in the United States and many abroad. They are on permanent exhibition in the Boston Museum of Science, the Hall of the Biology of Man of the American Museum of Natural History in New York City, the Cleveland Health Museum, the Academy of Science of Moscow. If Dr. Soupart can make such an assessment of my work, how can all the other authors, e.g., L. B. Arey in his *Developmental Anatomy*, and places be in such error? If one examines carefully a number of illustrations published by Dr. Soupart with fixation and preparation so harsh for study with electron microscopy, the true cytological status is hard to discern from the artifact.

Even though the chromosomes are as he might describe at the 2nd maturation division of the human oocyte, if he would carefully study the living specimen in phase contrast, just as the vitelline membrane represents the limiting boundary of the ooplasm, so are the chromosomes contained in an equally delicate, thin limiting nuclear membrane. Let him call it the metaphase plate, while I used the term nucleus to get across what was being removed; one does not find degenerative vacuoles in fresh, mature secondary oocytes.

Regarding inequality in cell size in the morula or blastocyst, the egg divides in the holoblastic manner, i.e., into two cells of equal size, then 4,8,16, but soon thereafter the simultaneous duplication of number hardly continues, with the result of some cells being larger than others due to asynchronous mitoses.

If Dr. Soupart will report correctly, I did not resort to the use of any aqueous media, instead employed the follicular and cellular fluids. Apparently he has not employed the microsurgical technique for introducing a somatic cell nucleus into another cell, the mature human ovum or secondary oocyte. It is not imperative to use hybridization. Studies on the growth, nourishment, maturation, fertilization and cleavage of the human ovum began long before Dr. Soupart came on the scene.

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