centred cubic structure given for rhodium of 0.3805 nm. Resolution of the clusters into individual atoms was obtained on successive micrographs of the same field and at ±3° tilt of the specimen about the axis of the electron beam.

We feel that these data, and micrographs obtained from other heavy metals, indicate that we have succeeded in obtaining images of isolated individual atoms using a conventional high resolution electron microscope. Data of this type can be of considerable help in obtaining the detailed structure of supported metal catalysts in respect to the clustering of the metal and the topographic details.

Note added in proof. The referee has pointed out to us that the principle of optimal sizing of the objective aperture for differential contrast had been previously suggested in a theoretical study by Cosslett (*Lab. Invest.*, **14**, 1009; 1965); we were not aware of this work when our calculations were made.

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Silver 108*m* Dating in Marine Organisms

WE have read with interest the recent letter by Beasley and Held[1] which voices reservations concerning the origins of the ^{108m}Ag and ^{110m}Ag reported by us[2]. Their comments are well thought out and deserve a careful reply.

First, we did not mean to imply that the ^{108m}Ag and ^{110m}Ag observed in the Pacific marine organisms was actually produced primarily by thermal neutron activation of stable silver; only that the assumption of an initial ^{110m}Ag/^{108m}Ag activity ratio value of 162 yielded apparently reasonable dates of original production of the radiosilver falling within the 1961–1962 atmospheric nuclear weapons testing period. It is true that the value 162 came from a reactor experiment[3] involving thermal and epithermal neutrons. But we first assumed it, not for this reason, but rather because it was then the only number available to us. We continued to use it because, rather remarkably, it gave reasonable results.

As Beasley and Held suggested, the reaction ^{109}Ag(n,2n) ^{108m}Ag does seem to be important in thermonuclear bomb production of radiosilver. More recent measurements, which we have just concluded on a sizable number of marine organisms collected in 1964–1965, suggest that the radiosilver in those samples had a rather uniform initial ^{110m}Ag/^{108m}Ag activity ratio of about 180. We consider this last value to be the result of a combination of fast neutron capture on ^{109}Ag and on ^{107}Ag, which should produce an initial ratio of about 400, together with ^{108m}Ag production by the ^{109}Ag(n,2n) reaction.

Beasley and Held also cited measurements in the environment of radiosilver from pre-1959 nuclear weapons testing, and suggest that ^{108m}Ag left over from that period might be expected to affect the radioactive datings made by us on 1964–1965 marine biological samples. We have found one sample collected directly downstream from the US Pacific Proving Ground in 1964 which does seem to contain some pre-1959 ^{108m}Ag. In general, however, we believe that radiosilver from the latter period should have an insignificant effect on the ^{110m}Ag/^{108m}Ag datings of 1964–1965 samples, based on (1) the fact that many more megatons of thermonuclear weapons were reported[4] detonated in the atmosphere in 1961–1962 than pre-1959, (2) the effects of turnover in the environment between the two periods and (3) the nature of the dating formula.

Beasley and Held state in their letter that the (n,p) reactions on stable cadmium are probably not important as producers of ^{108m}Ag and ^{110m}Ag in thermonuclear explosions "because the quantity of stable cadmium in nuclear devices would probably be kept to a minimum on account of the large thermal neutron cross sections". But it has been reported[5] that there was one shot in the 1962 US Test Series into which cadmium was intentionally introduced to produce a tracer of ^{109}Cd, namely the "Starfish Prime" explosion of July 9, 1962, at an altitude of about 400 km over Johnston Island. The possible presence of 1964–1965 environmental samples of radiosilver from cadmium in this explosion must also be considered, as it is not immediately obvious that such production would have been insignificant in comparison with other production during the 1961–1962 testing period.

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BIOLOGICAL SCIENCES

Chromosome Analysis of Abnormal Cells

I REGRET to say there was an error in my recent communication "Chromosome Analysis of Abnormal Cells"[1]. In Fig. 2 cell *a* is shown with only fifty-four chromosomes whereas cell *b* has

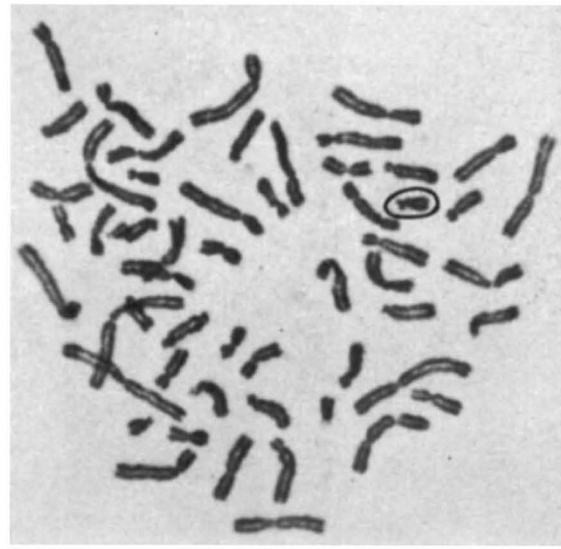

Fig. 1