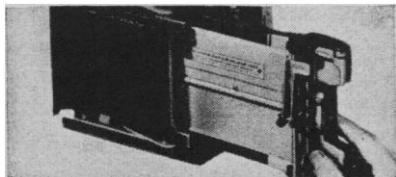
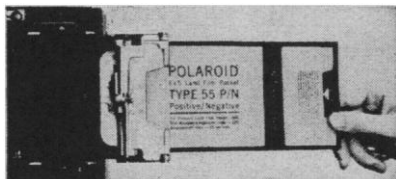


How Polaroid Land 4x5 film gives you both negative and positive in 20 seconds outside the darkroom.

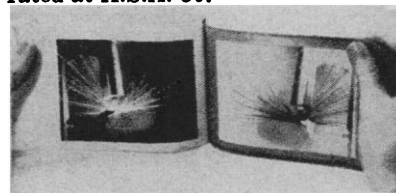
It's this simple to get both negative and positive without using the darkroom. Time required: 20 seconds.



Put a Polaroid Land 4 x 5 Film Holder in any camera that has a Graphic, Graflex or similar back.



Insert a Type 55 P/N Film Packet into the holder, and expose as you would with any panchromatic film rated at A.S.A. 50.



20 seconds later you have a fully developed, fine grain negative and a positive that matches the negative in every respect. Positive and negative develop in their own packet outside the camera, outside the darkroom. The negative needs only to be washed and dried to be ready to print or enlarge. Resolution is better than 150 lines per mm.

Type 55 P/N film is one of four special Polaroid Land films for 4 x 5 photography.

Type 52 film produces a virtually grainless paper print in 10 seconds. It has an A.S.A. rating of 200 and is ideal for general purpose 4 x 5 photography.

Type 57 Polaroid Land film has an A.S.A. rating of 3000 for use in extremely low light conditions. It also produces a finished print in 10 seconds.

New Type 58 Polacolor 4 x 5 film is now available. It produces a full-color print just 50 seconds after exposure. The colors are rich and beautiful and skin tones are especially accurate. Speed is 75 A.S.A.

The Polaroid Land 4 x 5 system gives your camera more versatility, opens up new opportunities for you in 4 x 5 photography.

"POLAROID" AND "POLACOLOR"®

et al. (1), using an electrophysiological technique.

4) We agree with Wharton *et al.* that our assignment of a band at 12.5 μ to an isopropylidene group was an unfortunate one. The assignment was based on the absence of this band from the infrared spectrum of the hydrogenated attractant. Gas chromatography of the hydrogenated attractant and the synthetic saturated product on packings different from those described has indeed shown the presence of several peaks, identical in the two preparations.

In spite of the marked instability of our cockroach sex attractant, we are attempting to synthesize this material. In the final analysis, only synthesis can serve as the decisive factor.

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References

1. J. Boeckh, E. Priesner, D. Schneider, M. Jacobson, *Science* **141**, 716 (1963).

Biological Mechanisms of Aging

In a recent very stimulating paper [*Science* **141**, 686 (1963)] Curtis has discussed biological aging processes and concluded, quite justly, that somatic mutations appear to have a primary importance in reducing longevity of living creatures. I think, however, that he has been unjust in holding up the "wear and tear" hypothesis of Selye, Comfort, and others as antithetical to the "somatic mutation" hypothesis which he espouses so effectively.

While Curtis has shown conclusively that certain stresses, even when applied systematically and repeatedly, do not accelerate aging, he has *not* shown that a wide variety of such stresses (such as are the burden of every living thing) will not do so. As he points out, certain stresses cause irremediable damage to some organ or tissue and thus make eventual failure at that point relatively likely. The beauty of radiation as an experimental stress is that it is general, striking all sensitive tissues at once. But from the experiments reported by Curtis we cannot say that application of a number of specific chemical and disease stresses will not bring about a general loss of

viability similar to that caused by radiation. The advance Curtis has made is to suggest (implicitly) that the wear-and-tear hypothesis is *commuted* to the somatic-mutation hypothesis by the recognition that viability-reducing stresses are those which are mutagenic in certain susceptible tissues: those in which mitosis is slow. The two hypotheses are more alike than they first seemed.

Experiments like those of Curtis's group are suggested, in which mice during their laboratory lifetimes are subjected to a carefully selected *range* of stresses. Like Selye, I would include various types of psychological stress, in addition to numerous chemicals and diseases, because such stresses are notorious as "imbalancers" of function in many of the organs now shown to be most susceptible to weakening by somatic mutation.

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I think Whipple's suggestion is excellent and am inclined to agree that if just the right combination of stresses were found it would shorten the life span. But the question would then be: What does this have to do with natural aging? It is apparent there is abundant room for future research.

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Blood of Anthropoid Apes

Readers using the report by Wiener and Moor-Jankowski on blood groups in apes and baboons [*Science* **142**, 3588 (4 Oct. 1963)] will probably also be interested in a neglected paper by Yvan Berezney [*Bull. Soc. Roy. Zool. Anvers No. 10* (1959)]. Berezney gives detailed data on blood groups, chemistry, counts, various measurements, and immunoelectrophoretic patterns for nine chimpanzees, six gorillas, and two orang-utans. A finding in some contrast to that of Wiener and Moor-Jankowski concerns the blood groups of gorillas: Berezney reports type O in four *Gorilla gorilla beringei* and one *G. g. gorilla*, type A in one *G. g. beringei*.

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