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Balinsky B I & Devis R J. Origin and differentiation of cytoplasmic structures in the oocytes of *Xenopus laevis*. *Acta Embryol. Morphol. Exp.* **6**:55-108, 1963.
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The paper reports the results of a systematic electron microscopic investigation of the development of the frog oocyte, showing the origin of a variety of cytoplasmic structural elements in the oocyte: the yolk, the pigment granules, the cortical granules, and the vacuolated cortical cytoplasm. [The *SCI*® indicates that this paper has been cited in over 185 publications since 1963, making it the most-cited paper published in this journal.]

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"My work in electron microscopy (EM) is directly connected to a visit I paid to the US in 1956. After many years of work in embryology (mainly using microsurgery on embryos as a method of research) done in European countries, I found myself as head of the zoology department of the University of the Witwatersrand in Johannesburg, South Africa. Using my first sabbatical leave, I flew to the US. My aim was to see how new techniques could be applied to the study of embryonic development. One such new technique was EM. Application of EM to biological studies was at that time in its infancy. A senior colleague **told me that EM** is **not** of much use for an embryologist. 'One cannot cut serial sections; one picks up a section off the edge of a broken piece of glass.' **Undaunted** by **this skeptical opinion, I went ahead. I had the good fortune of contacting the pioneers of biological EM: George E. Palade[1] and Keith R. Porter[2] at the Rockefeller Institute in New York. Palade showed me how sections for EM are cut, and Porter encouraged me in my plans to apply EM to embryological research. At Yale University, which was my base in the US, I further studied the technique of embedding, cutting sections, and making EM photographs. On my return to Johannesburg, I was delighted to find that our university had acquired an electron microscope. This was done on the initiative of physicists, but I was the first to use the microscope for a biological project. Most of the time I was on my own, though during the work on** oocytes **I had the help of Rosemary Devis, my research assistant, who was paid by the Council for Scientific and Industrial Research of South Africa.**

"I believe that the success of my paper was due to two circumstances. First, it was one of the early applications of a new technique to the study of animal development. Secondly, it was a matter of choosing as my object one of great and general interest: the egg in its formation. *Omne vivum* ex *ovo* — **a statement obviously incorrect in its general meaning is true enough in application to the animal world. The more that is learned of animal development, the more attention is focused on the ovum that contains the mechanism on which depends all the subsequent developmental process. My paper embodied the result of the most comprehensive, at that time, systematic study, on the electron microscopic level, of the formation of an animal ovum. For a recent reference, see** *The Vertebrate Ovary."*[3]

1. **Palade** G E. A study of fixation for electron microscopy. *J. Exp. Med.* **95**:285-98. 1952.
(Cited 3,060 times since 1955.)
2. **Porter K R & Blum J.** A study in microtomy for electron microscopy. *Anal. Rec* **117**:685-70. 1953.
(Cited 220 times since 1955.)
3. **Jones R E**, ed. T*he vertebrate ovary: comparative biology and evolution.* New York: Plenum Press, 1978. 853 p.