



UNIVERSIDAD DE BUENOS AIRES. FACULTAD DE MEDICINA  
II CÁTEDRA DE MICROBIOLOGÍA, PARASITOLOGÍA E INMUNOLOGÍA

MICROBIOLOGÍA Y PARASITOLOGÍA I  
CLASE TEÓRICA 2

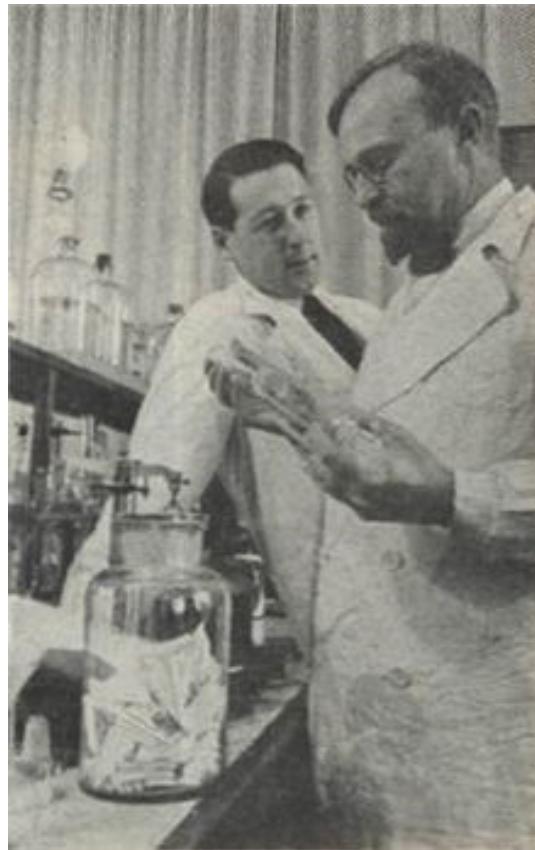
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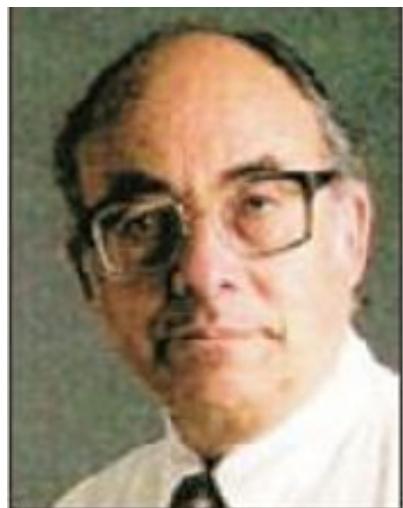
*Doctor en Medicina (UBA)*

# **¿DE DÓNDE PROVIENEN LOS MICROORGANISMOS?**

# **EL ORIGEN DE LA VIDA EN LA TIERRA**



**ALEKSANDR OPARIN (1894-1980)**

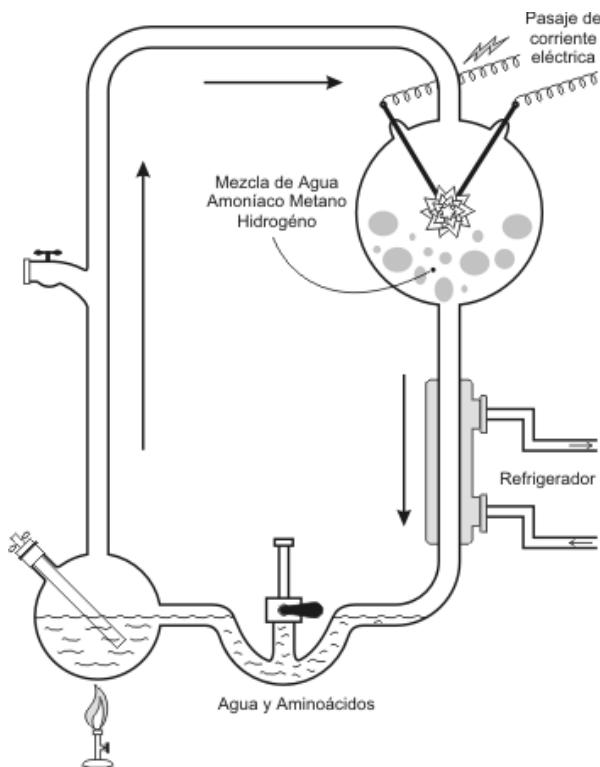
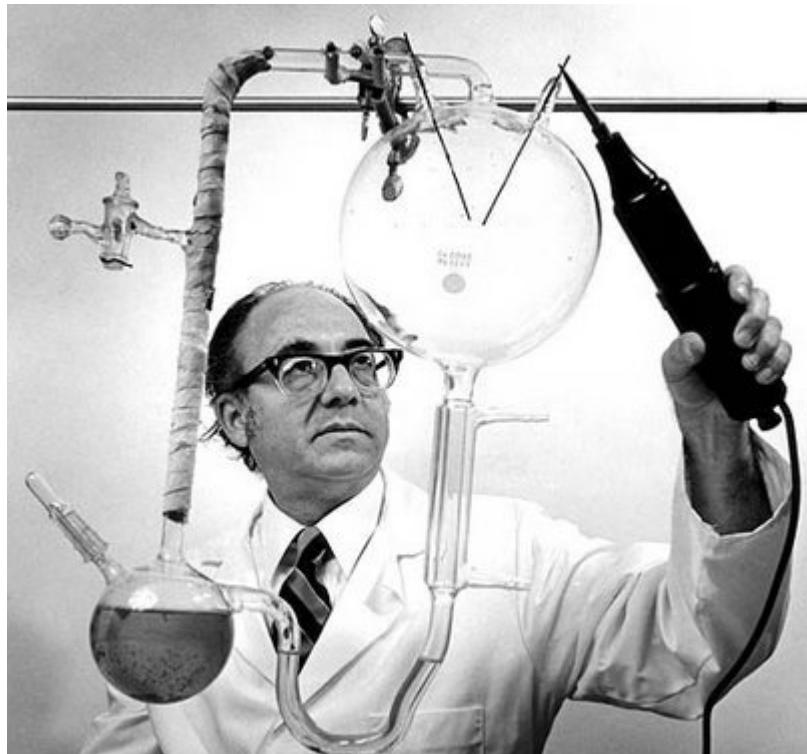


**Stanley L. Miller   Harold C. Urey**

1930-2007

1893-1981

# EL EXPERIMENTO DE MILLER Y UREY (1952)

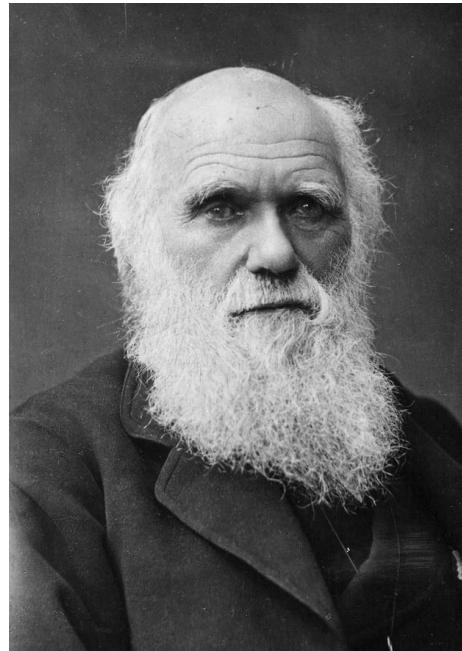


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# LA EVOLUCIÓN BIOLÓGICA



JEAN BAPTISTE DE  
LAMARCK (1744-1829)



CHARLES DARWIN  
(1809-1882)

LAMARCK: LOS CARÁCTERES ADQUIRIDOS SE HEREDAN.

DARWIN: LOS RASGOS GENÉTICOS SE HEREDAN.

## **POSTULADOS DE LA EVOLUCIÓN BIOLÓGICA:**

- **HAY MÁS SERES VIVOS QUE LOS QUE EL ECOSISTEMA PUEDE MANTENER.**
- **SE ESTABLECE UNA LUCHA POR LA SUPERVIVENCIA.**
- **GANAN LOS MEJORES ADAPTADOS.**
- **ÉSTOS LES TRANSMITEN A SUS DESCENDENCIA LOS GENES QUE LES PERMITIERON SOBREVIVIR.**
- **LOS INDIVIDUOS CON ESOS GENES SON LOS QUE PERSISTEN. LOS DEMÁS MUEREN.**
- **LAS DIFERENCIAS ENTRE LOS INDIVIDUOS SE DIERON POR “MUTACIONES”.**

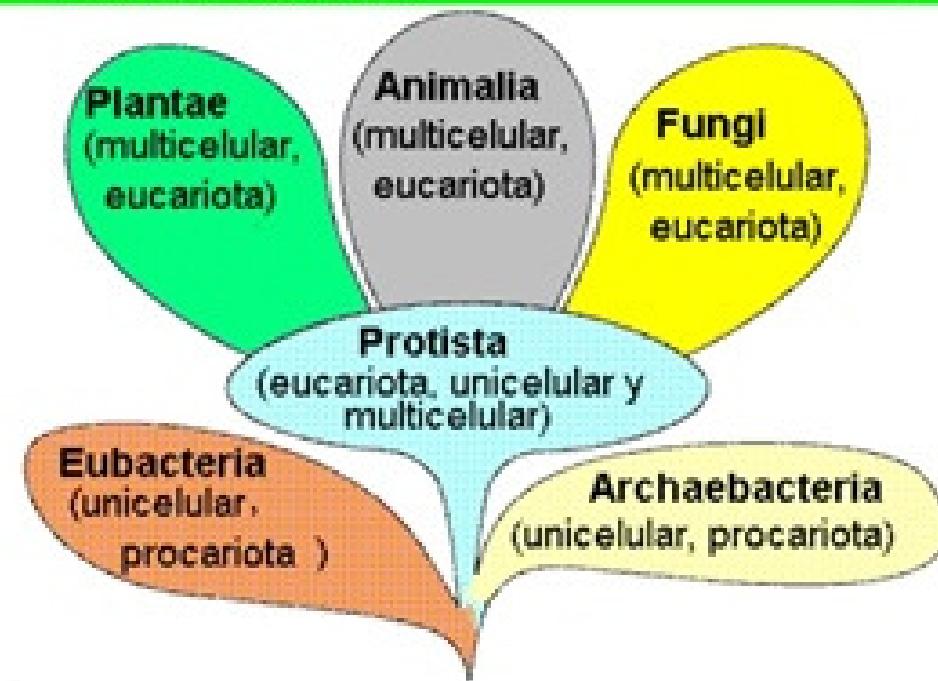
*“Nada tiene sentido en biología si no es a la luz de la evolución”*



*Theodosius Dobzhansky (1900-1975)*

# **LA EVOLUCIÓN Y LA MICROBIOLOGÍA MÉDICA**

- EN CADA COLONIA BACTERIANA (1.000.000 – 100.000.000 DE INDIVIDUOS) HAY 1 QUE ESPONTÁNEAMENTE ES MUTANTE.**
- MUCHOS VIRUS PRESENTAN MUTACIONES CONSTANTEMENTE.**
- LOS HONGOS SE HAN ADAPTADO A DISTINTOS AMBIENTES.**
- LOS PARÁSITOS SUFREN MUTACIONES ADAPTATIVAS**



# **¿CÓMO SE GENERA EL CONOCIMIENTO MICROBIOLÓGICO?**

# **POR LA APLICACIÓN DEL “MÉTODO CIENTÍFICO”**

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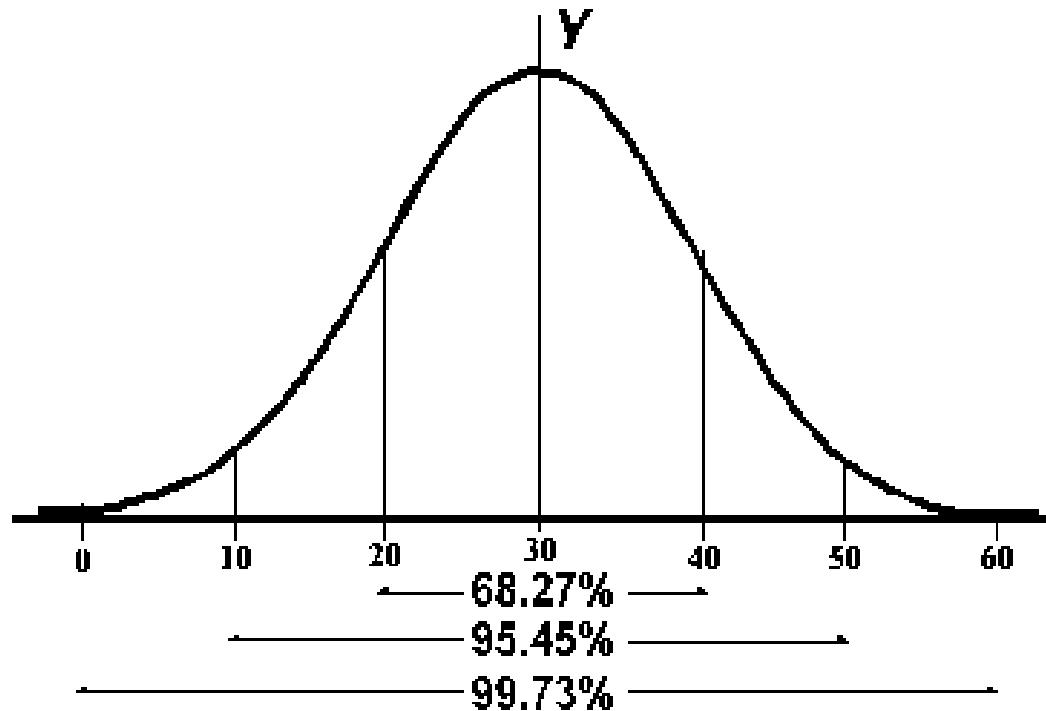
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# **DISTINTOS CRITERIOS DE “VERDAD” EN LAS CIENCIAS**

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¿12+1=1?

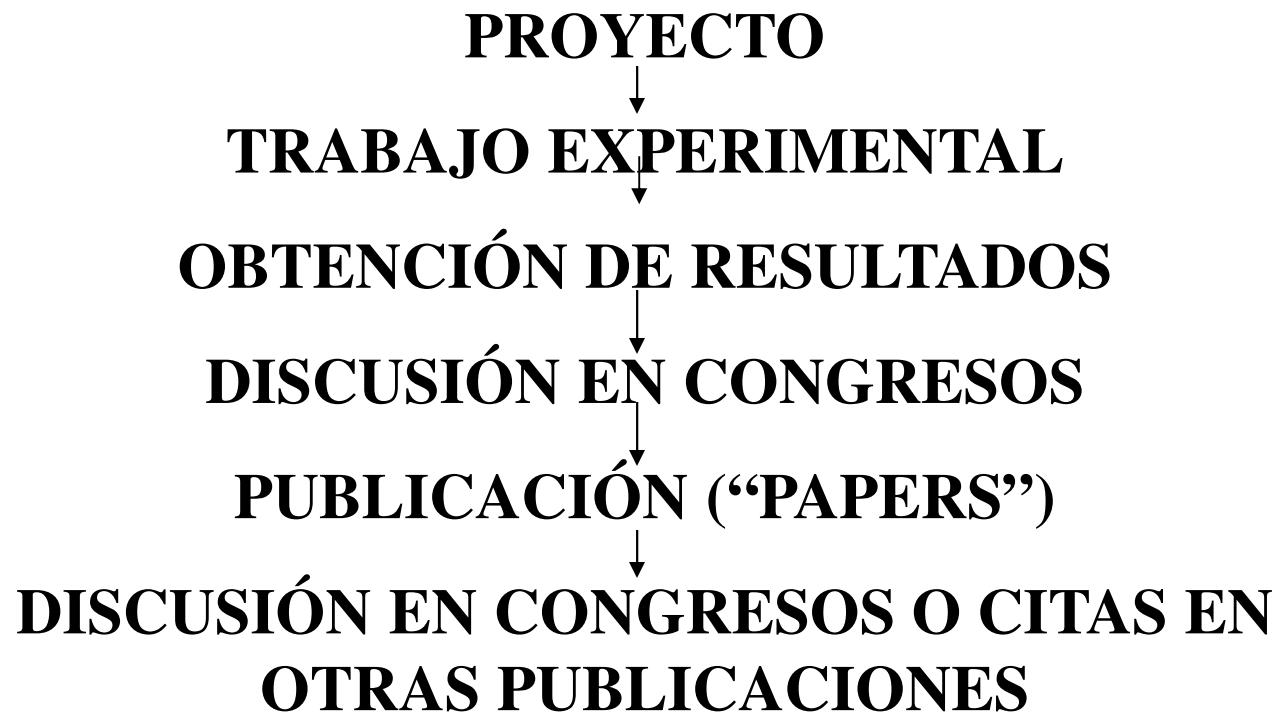
# **EN LAS CIENCIAS FÁCTICAS EL CRITERIO DE “VERDAD” ES ESTADÍSTICO**



# EL MÉTODO EXPERIMENTAL



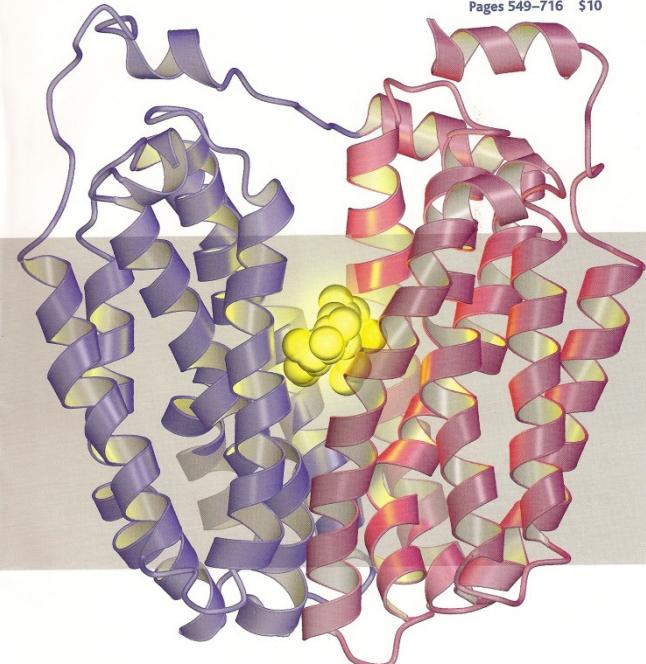
# **EL CONOCIMIENTO ES PÚBLICO**



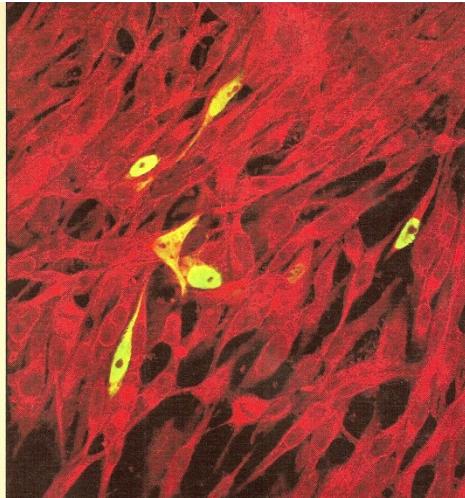
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DECEMBER 2001, VOLUME 75, NUMBER 24

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## **EL MÉTODO DIAGNÓSTICO**

- 1. CONOCIMIENTO DE LOS FACTORES AMBIENTALES.**
  
- 2. ANAMNESIS (INTERROGATORIO)**
  
- 3. EXAMEN FÍSICO:**
  - a. Inspección.**
  - b. Palpación.**
  - c. Percusión.**
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- 4. ESTUDIOS COMPLEMENTARIOS**

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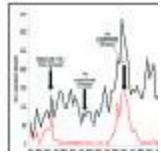
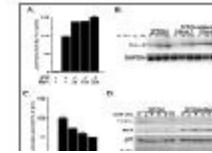
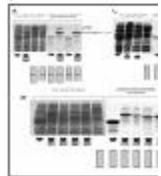
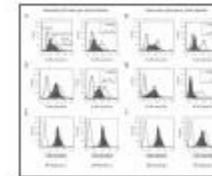
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## Measles virus-induced suppression of immune responses.

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W. Harry Feinstone Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD 21205, USA. dgriffin@jhsph.edu

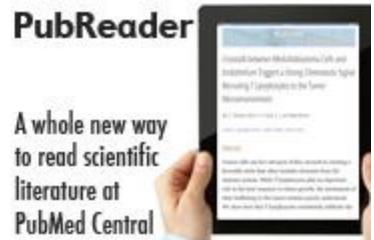
### Abstract

Measles is an important cause of child mortality that has a seemingly paradoxical interaction with the immune system. In most individuals, the immune response is successful in eventually clearing measles virus (MV) infection and in establishing life-long immunity. However, infection is also associated with persistence of viral RNA and several weeks of immune suppression, including loss of delayed type hypersensitivity responses and increased susceptibility to secondary infections. The initial T-cell response includes CD8+ and T-helper 1 CD4+ T cells important for control of infectious virus. As viral RNA persists, there is a shift to a T-helper 2 CD4+ T-cell response that likely promotes B-cell maturation and durable antibody responses but may suppress macrophage activation and T-helper 1 responses to new infections. Suppression of mitogen-induced lymphocyte proliferation can be induced by lymphocyte infection with MV or by lymphocyte exposure to a complex of the hemagglutinin and fusion surface glycoproteins without infection. Dendritic cells (DCs) are susceptible to infection and can transmit infection to lymphocytes. MV-infected DCs are unable to stimulate a mixed lymphocyte reaction and can induce lymphocyte unresponsiveness through expression of MV glycoproteins. Thus, multiple factors may contribute both to measles-induced immune suppression and to the establishment of durable protective immunity.

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