



Eva Crane Trust

ECTD_005a

TITLE: Bioelectric potentials, their maintenance and function

SOURCE: *Progress in biophysics and biophysical chemistry*, eds J.A.V. Butler & J.T. Randall. London: Butterworths

DATE: 1950

Note: This is a draft copy, complete with hand written notes, of the article that was published.

Bioelectric potentials, their maintenance and function.

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1. Introduction.

3 2. Historical resume.

(18), (19), (20) - write out.

5 3. Occurrence of bioelectric potentials.

frame of reference.
definitions
steady bioelectric potentials from various sources.

10 4. Causes of bioelectric potentials.

introduction.
liquid junction potentials.
membrane potentials.
phase boundary potentials.
electron transfer potentials.
electrokinetic potentials.
conclusion. ^{general} discussion.

8 5. Bioelectric potentials and physiological changes.

introduction
growth and development.
anesthesia
ovulation
the healing of wounds.
carcinogenesis

6 6. Specific electric organs.

distribution
structure
discharge

7. Relation of bioelectric potentials to secretory function.

endergonic character of secretion
studies of active secretion & absorption
use of radioactive isotopes
p.d. of secretory membranes

3. ~~Bioelectric potentials as a source of energy~~
p.d. - current characteristics (of secretory membranes)

general electric organs
frog skin and gastric mucosa.
effect of electric current on acid secretion.

8. ~~Conclusion.~~

8 Bioelectric potentials as a source of energy

potentials as a source of energy

8. Relationship between bioelectric potentials &

energy available from metabolism.

Bioelectric potentials as a maintained source of electric energy

Bioelectric potentials as a source of energy

in other endergonic processes.

Utilization of electrical energy produced directly

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