

Notes on Animal Grafting and Crossbreeding

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Graft a ^{young} rats tail on a ^{young} ^{male} mouse; do. do. on a female mouse, and see if, when grown up their progeny will have longer tails than normal mice.

Graft ^{old} rats tail on a young rats body; and when that rat gets old, re-graft the tail on another rats body; and so ad infinitum, in order to see how long the tail will live. Same exp. might be tried by grafting rats tail on a cats tail - or on any animal having a longer life than a rat.

atrophy pups tails with
ligatures, & see if their progeny
will be affected as to tails

brush tails of rats and cats

Try grafting ovaries in rats and
mice.

Repeat Heaps' exp. with rats,
putting ovum of albino fertilized
by albino into tube of wild mother.

Do the same with mice; but
in this case reciprocally, because
Wallace's mouse shows predominance
of albino parent.

Graft whole ovary of albino
into wild rat on both sides when
young, and mate with albino male

Graft whole ovary of wild mouse
on both sides into albino mouse, and
mate with wild male

They do

~~and if they are picked,~~

~~Stuff white rats of both
sex with sperm of brown
rats.~~

~~← Try whether wild rats
will pair with tame
ones.~~

~~If not, try whether
tame females can be
artificially inseminated
by wild sperm.~~

~~If ⁱⁿ either way a progeny
can be procured after
wards place ^{the female} female
with a tame male,
in order to see whether
there be any residual
influence of first sire
If so, try infusing~~

Both in case of rats ~~and~~ and, still
more, in mice, try whether there
is any residual effect on female
after ~~the~~ oestrus after having
been impregnated with wild male.

try injecting
wild sperm in tame
female ^{rats} between her periods
of heat, & then allowing
her to breed with a
tame male.

also try stuffing
both male & female tame
rats (young) with sperm
of wild; ~~then~~ ~~then~~
then let them breed.

The inoculations had better
be frequently repeated.

also, in an adult-
tame female try putting
ovary in series of
wild rats, then letting
her breed with a tame
male.

Try ligaturing limb of
a newt, to see if when
lost by sloughing it will
afterwards be regenerated

Remove ovaries from foot

In repeating Brown Squash
exps. Try injuring testiform
body of pregnant female.

If there be then any result,
(taken in connection with
Heaps' exp) it must almost
certainly not be due to heredity.
On other hand, if there be no
result after many trials,
effort, when it does take place,
is probably not due to microbes,
~~and~~ poison, or any kind
of disease.

Again, if no result after
many trials, try a series of
exps. on different ages.

Try the operation on full grown g. ps.
anyhow, to see if this explains difference
between B. Ss. results & mine.

Try how low down foot-
sial scale from man the
reflex mechanism of withdrawing
foot from stimulation extends.

Does it apply to hands of
man as well as to foot?

Find out why section of sciatic
in young animals (both guinea-pigs,
2 rats) produces so little degeneration
of leg as compared with same
exp. on older animals.

As nerve-section does not
cause complete atrophy of ^{young} leg, try
ligaturing leg of young animals,
or minding it all up in
tape.



[It can be done by gall-insects
& hydatids]

[Why not? Weismann
might say that the stimulus
caused the germ-plasm to
multiply]

Try crossing reciprocally
Angora rabbit and Belgian
hare

Try to induce an abnormal
multiplication of cells in
some cellular tissue. If this
could be done, it would have
dangerous ~~consequences~~ ^{implications} against
form-plate; because the quan-
tity of "nuclear-plate" originally
stored in the normal cells
could not be increased by any
artificial process. p. Query. Is there
any process known by which this
can be done? If so, quote result
in Note to p. 460 of M.S.

In efforts of rise in individual
life-time, do cells increase in
number (or in size)? If in number
the increased nutrition must act as
a stimulant to dormant determinants

With regard to scratching reflex, try in rats whether amputation of both hind feet produces same effect as that of one. If so, the action must be congenital: if not, fact would show that it is due to a correlation in intelligence between the two sides of the body - i.e., that in building up an organized habit (during individual life-time) on one side, the influence is extended by correlation to the other side.

Try also what would happen if ^{cerebral hemisphere} ~~frontal lobes~~ of brain were removed (a) at same time as feet are amputated in new-born rats; and (b), after the rats are grown up, whose feet have been amputated in infancy.

Try, also, in ^{young} guinea-pigs
 removing leg at knee-joint -
 at same time as sciatic is
 divided. If, when grown up,
 they use stump to try to
 scratch elephantine zone when
 this is pinched, presumption is
 that they would correctly locate
 like the area, if the foot were
 present. I.e., the reflex would
 be shown more fully developed
 than it is in dog. But -
 here, also, it ought to be
 ascertained whether an adult-
 f-p. will perform this action
 after hemispheres have been
 removed.

Repeat Heaps' exp. with
rats - putting ovum of
albino fertilized by albino
into tube of wild mother

Also, graft whole
ovary of albino into
wild rat on both sides
when young, and mate
with albino