BIOLOGICAL PSYCHOLOGY: EVOLUTION, GENES AND BEHAVIOUR

OUR NERVOUS SYSTEM IS THE PRODUCT OF **EVOLUTION**. IT IS THEREFORE LIKELY THAT EVOLUTION HAS INFLUENCED OUR **BEHAVIOUR**.

HOW?

GENETIC INFORMATION IS TRANSMITTED TO THE NEXT GENERATION VIA **GENES**.

SOME GENES CODE FOR **BEHAVIOURAL TRAITS** THAT MAKE THE ORGANISM MORE LIKELY THAN ITS COMPETITORS TO SURVIVE AND REPRODUCE. OVER **MANY GENERATIONS**, THESE TRAITS SPREAD THROUGH THE POPULATION.

NOT EVERY GENE IN AN ORGANISM'S **GENOTYPE** IS EXPRESSED. A GENE CAN BE CARRIED BUT NOT SHOW UP IN THE ORGANISM'S **PHENOTYPE**.

NOT EVERYONE WITH A 'PHOBIA' GENE WILL HAVE A PHOBIA.

FOR EXAMPLE, THE TENDENCY TO BE **SCARED OF SPIDERS** WOULD CAUSE A PERSON TO AVOID THEM, MAKING THEM LESS LIKELY TO BE KILLED BY ONE. A GENE THAT CAUSED THIS TENDENCY MIGHT BECOME VERY COMMON IN THE HUMAN SPECIES.

THREE WAYS TO INVESTIGATE THIS.

FAMILY STUDY

WE FIND OUT IF THE RELATIVES OF THOSE WITH A TRAIT ARE MORE LIKELY THAN THE GENERAL POPULATION ALSO TO HAVE IT.

TWIN STUDY

WE FIND OUT IF IDENTICAL TWINS ARE MORE LIKELY BOTH TO HAVE THE TRAIT THAN NON-IDENTICAL TWINS, IF ONE HAS IT.

ADOPTION STUDY

WE FIND OUT IF ADOPTIVE CHILDREN WITH THE TRAIT ARE MORE SIMILAR TO THEIR BIOLOGICAL OR ADOPTIVE PARENTS

THERE IS A TENDENCY FOR PHOBIAS TO **RUN IN FAMILIES**. BEING RELATED TO A PHOBIC MAKES IT MORE LIKELY THAT A PERSON WILL BE PHOBIC THEMSELVES. **CONCORDANCE RATES** FOR PHOBIA ARE HIGHER IN IDENTICAL THAN NON-IDENTICAL TWINS. THERE ARE SOME INDICATIONS THAT, IN TERMS OF PHOBIAS, ADOPTED CHILDREN TEND TO RESEMBLE THEIR **BIOLOGICAL PARENTS**. ALL THIS EVIDENCE SUGGESTS THAT GENES MAKE **SOME CONTRIBUTION** TO PHOBIAS.

Aidan Sammons psychlotron.org.uk