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DOGS ARE AS INTELLIGENT AS THE AVERAGE TWO-YEAR-OLD CHILD, ACCORDING TO RESEARCH BY ANIMAL PSYCHOLOGISTS.

RESEARCHERS HAVE FOUND THAT DOGS ARE CAPABLE OF UNDERSTANDING UP TO 250 WORDS AND GESTURES, CAN COUNT UP TO FIVE AND CAN PERFORM SIMPLE MATHEMATICAL CALCULATIONS.

USING TESTS ORIGINALLY DESIGNED TO DEMONSTRATE THE DEVELOPMENT OF LANGUAGE, PRE-LANGUAGE AND BASIC ARITHMETIC IN HUMAN CHILDREN, THE RESEARCHERS WERE ABLE TO SHOW THAT THE AVERAGE DOG IS FAR MORE INTELLIGENT THAN THEY ARE GIVEN CREDIT FOR.

THEY HAVE ALSO COMPILED A LIST OF THE MOST INTELLIGENT AND LEAST INTELLIGENT BREEDS USING INFORMATION FROM OBEDIENCE CLASSES. BORDER COLLIES AND RETRIEVERS WERE RATED AMONG THE MOST INTELLIGENT WHILE HOUNDS AND TERRIERS WERE THE LEAST BRIGHT.

"THE AVERAGE DOG IS ABOUT AS BRIGHT LINGUISTICALLY AS A HUMAN TWO-YEAR-OLD," SAID PROFESSOR STANLEY COREN, A LEADING EXPERT ON CANINE INTELLIGENCE AT THE UNIVERSITY OF BRITISH COLUMBIA IN VANCOUVER WHO HAS CARRIED OUT THE WORK.

"THIS MEANS THEY CAN UNDERSTAND ABOUT 165 WORDS, SIGNS AND SIGNALS. THOSE IN THE TOP 20 PER CENT WERE ABLE TO UNDERSTAND AS MANY AS 250 WORDS AND SIGNALS, WHICH IS ABOUT THE SAME AS A TWO AND A HALF YEAR OLD.

"OBVIOUSLY WE ARE NOT GOING TO BE ABLE TO SIT DOWN AND HAVE A CONVERSATION WITH A DOG, BUT LIKE A TWO-YEAR-OLD, THEY SHOW THAT THEY CAN UNDERSTAND WORDS AND GESTURES."

PROFESSOR COREN, WHO PRESENTED HIS WORK ON SATURDAY AT THE ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, BELIEVES DOGS ARE AMONG THE MOST INTELLIGENT ANIMALS AND CAN RIVAL APES AND PARROTS FOR THEIR ABILITY TO UNDERSTAND LANGUAGE.

WHILE MOST DOGS UNDERSTAND SIMPLE COMMANDS SUCH AS SIT, FETCH AND STAY, A BORDER COLLIE TESTED BY PROFESSOR COREN SHOWED A KNOWLEDGE OF 200 SPOKEN WORDS. THE COLLIE WAS ABLE TO RECOGNISE THE NAMES OF ITEMS IT WAS ASKED TO FETCH AND CORRECTLY RETRIEVE THEM.

THE DOG WAS ALSO QUICK TO LEARN THE NAMES FOR NEW ITEMS AND AFTER BEING TAUGHT A NEW WORD, BROUGHT BACK THE CORRECT ITEM 70 PER CENT OF THE TIME. OTHER DOGS HAVE SHOWN SIMILAR ABILITIES, ALTHOUGH OFTEN WITH FEWER WORDS BUT WITH GESTURES INSTEAD.

PROFESSOR COREN HAS ALSO FOUND THAT DOGS CAN COUNT USING ESTABLISHED TESTS DEVELOPED FOR YOUNG CHILDREN. WHEN SOMETHING UNEXPECTED HAPPENS WITH AN OBJECT, CHILDREN AND DOGS WILL STARE AT IT FOR A LONGER PERIOD OF TIME.

BY LOWERING A DOG TREAT BEHIND A SCREEN AND THEN ANOTHER, THE DOG WOULD EXPECT TO SEE TWO DOG TREATS, BUT IF A TREAT IS SECRETLY REMOVED OR ANOTHER ONE ADDED, THE RESEARCHERS FOUND DOGS WOULD STARE FOR LONGER AT THE TREATS WHEN THE SCREEN WAS REMOVED.

PROFESSOR COREN SAID: "DOGS CAN TELL THAT ONE PLUS ONE SHOULD EQUAL TWO AND NOT ONE OR THREE.

"THEY CAN ALSO DELIBERATELY DECEIVE, WHICH IS SOMETHING THAT YOUNG CHILDREN ONLY START DEVELOPING LATER IN THEIR LIFE."

A SURVEY OF MORE THAN 200 DOG OBEDIENCE JUDGES IN THE US AND CANADA HAS ALSO HELPED TO REVEAL THE MOST INTELLIGENT BREEDS. BORDER COLLIES WERE RATED AS THE MOST INTELLIGENT WHILE AFGHAN HOUNDS WERE THE LEAST INTELLIGENT.

PROFESSOR COREN BELIEVES CENTURIES OF SELECTIVE BREEDING AND LIVING ALONGSIDE HUMANS HAS HELPED TO HONE THE INTELLIGENCE OF DOGS.

HE SAID: "IF YOU LOOK AT WILD WOLVES, THEY DO NOT PERFORM AS WELL AS DOMESTIC DOGS. WHEN A HUMAN POINTS, THE WOLF WILL LOOK AT THE FINGER, WHILE THE DOMESTIC DOG WILL LOOK WHERE THE FINGER IS POINTING.

"FOR SOME OF THE OLDER BREEDS LIKE HOUNDS AND TERRIERS, THEY WERE BRED TO HUNT AND RUN PREY DOWN FOR HUMANS WHILE OTHER BREEDS SUCH AS COLLIES AND RETRIEVERS WERE BRED TO FOLLOW COMMANDS."

THERE IS NOW A GROWING BODY OF RESEARCH THAT IS SHOWING OTHER DOMESTICATED ANIMALS ARE IN FACT MORE INTELLIGENT THAN WAS PREVIOUSLY THOUGHT. RECENT RESEARCH AT ESSEX UNIVERSITY SHOWED THAT HORSES ARE CAPABLE OF COUNTING.

PROFESSOR MARC BEKOFF, AN ECOLOGIST AT UNIVERSITY OF COLORADO, BOULDER, SAID: "DOMESTIC ANIMALS ARE INCREDIBLY SMART AND EMOTIONAL.

"THEY DO MANY THINGS THAT THEIR WILD RELATIVES CANNOT DO BECAUSE OF THEIR CLOSE ASSOCIATION WITH HUMANS OVER LONG PERIODS OF DOMESTICATION AND WE CAN LEARN A LOT ABOUT THEIR WILD RELATIVES BY STUDYING DOGS AS I HAVE DONE WITH SOCIAL PLAY."

ALLAN BROOKS, AN AFGHAN HOUND BREEDER FROM CO DURHAM AND INTERNATIONAL SHOW JUDGE, SAID: “AFGHAN HOUNDS ARE NOT AT ALL STUPID. THEY HAVE GOT ONE HELL OF A LONG MEMORY.

“THEY CAN ACT LIKE A BIT OF CLOWN AND LIKE TO CAUSE A RIOT, BUT THEY HAVE GOT FAR MORE BRAINS THAN A LOT OF BREEDS.”

TEN MOST INTELLIGENT BREEDS

BORDER COLLIE

POODLE

GERMAN SHEPHERD

GOLDEN RETRIEVER

DOBERMAN PINSCHER

SHETLAND SHEEPDOG

LABRADOR RETRIEVER

PAPILLON

ROTTWEILER

AUSTRALIAN CATTLE DOG

LEAST INTELLIGENT BREEDS

AFGHAN HOUND

BASENJI

BULLDOG

CHOW CHOW

BORZOI

BLOODHOUND

PEKINESE

BEAGLE

MASTIFF

BASSET HOUND

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THE SCIENCE SEGMENT

LIFE'S BUILDING BLOCK FOUND IN COMET

A FUNDAMENTAL INGREDIENT FOR LIFE HAS BEEN DISCOVERED IN A COMET SAMPLE, SUPPORTING THE IDEA THAT SUCH ICY OBJECTS SEEDED EARLY EARTH WITH THE STUFF NEEDED TO WHIP UP LIVING ORGANISMS.

NEW RESEARCH FIRMS UP PAST SUGGESTIONS OF GLYCINE, THE SIMPLEST AMINO ACID USED TO MAKE PROTEINS, INSIDE SAMPLES FROM THE COMET WILD 2 (PRONOUNCED "VILT 2").

"THIS IS THE FIRST TIME AN AMINO ACID HAS BEEN FOUND IN A COMET," SAID LEAD RESEARCHER JAMIE ELSILA OF NASA'S GODDARD SPACE FLIGHT CENTER IN GREENBELT, MD. "OUR DISCOVERY SUPPORTS THE THEORY THAT SOME OF LIFE'S INGREDIENTS FORMED IN SPACE AND WERE DELIVERED TO EARTH LONG AGO BY METEORITE AND COMET IMPACTS."

HOW LIFE AROSE ON EARTH HAS LONG PUZZLED SCIENTISTS AND PHILOSOPHERS ALIKE, WITH POSSIBLE EVIDENCE FOR SUCH BUILDING BLOCKS SHOWING UP FLOATING ABOUT IN THE COSMOS AND EVEN INSIDE THE MOUTHS OF VOLCANOES.

THE NEW FINDING, WHICH HAS BEEN ACCEPTED FOR PUBLICATION IN THE JOURNAL METEORITICS AND PLANETARY SCIENCE, ALSO HAS IMPLICATIONS FOR FINDING ALIEN LIFE.

"THE DISCOVERY OF GLYCINE IN A COMET SUPPORTS THE IDEA THAT THE FUNDAMENTAL BUILDING BLOCKS OF LIFE ARE PREVALENT IN SPACE, AND STRENGTHENS THE ARGUMENT THAT LIFE IN THE UNIVERSE MAY BE COMMON RATHER THAN RARE," SAID CARL PILCHER, DIRECTOR OF THE NASA ASTROBIOLOGY INSTITUTE, WHICH CO-FUNDED THE RESEARCH.

NASA'S STARDUST SPACECRAFT CAPTURED SAMPLES OF GAS AND DUST FROM WILD 2 IN 2004. THE MATERIAL PARACHUTED TO EARTH IN 2006. SINCE THEN, SCIENTISTS AROUND THE WORLD HAVE BEEN ANALYZING THE SAMPLES TO LEARN THE SECRETS OF COMET FORMATION AND OUR SOLAR SYSTEM'S HISTORY.

PRELIMINARY TESTING HAD SUGGESTED GLYCINE WAS PRESENT IN THE SAMPLES. BUT SINCE GLYCINE IS USED BY TERRESTRIAL LIFE, THE TEAM COULDN'T RULE OUT CONTAMINATION FROM EARTHLY SOURCES, ACCORDING TO A NASA STATEMENT RELEASED TODAY.

"IT WAS POSSIBLE THAT THE GLYCINE WE FOUND ORIGINATED FROM HANDLING OR MANUFACTURE OF THE STARDUST SPACECRAFT ITSELF," ELSILA SAID.

TO TEASE APART CONTAMINATION FROM THE REAL MCCOY, THE RESEARCHERS RECENTLY ANALYZED THE SAMPLES FOR DIFFERENT CARBON ISOTOPES, WHICH ARE VERSIONS OF THE SAME ELEMENT WITH DIFFERENT MASSES.

GLYCINE MOLECULES FROM SPACE TEND TO HAVE MORE OF THE HEAVIER CARBON 13 ATOMS THAN GLYCINE FROM EARTH. THAT'S EXACTLY WHAT THE TEAM FOUND.

"WE DISCOVERED THAT THE STARDUST-RETURNED GLYCINE HAS AN EXTRATERRESTRIAL CARBON ISOTOPE SIGNATURE, INDICATING THAT IT ORIGINATED ON THE COMET," ELSILA SAID.

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ABROAD

CANBERRA, AUSTRALIA

A SENIOR UNITED NATIONS OFFICIAL CONDEMNED ON THURSDAY AUSTRALIA'S CONTROVERSIAL INTERVENTION INTO REMOTE ABORIGINAL COMMUNITIES, DESCRIBING THE MEASURES AS DISCRIMINATORY AND FINDING ENTRENCHED RACISM IN AUSTRALIA.

THE UN SPECIAL RAPPORTEUR ON INDIGENOUS PEOPLE, JAMES ANAYA, MADE THE FINDINGS AFTER A 12-DAY VISIT TO AUSTRALIA, WHERE HE VISITED INDIGENOUS COMMUNITIES AND HELD TALKS WITH THE AUSTRALIAN GOVERNMENT.

AUSTRALIA'S FORMER CONSERVATIVE GOVERNMENT SENT POLICE AND TROOPS TO REMOTE ABORIGINAL COMMUNITIES IN JUNE 2007, AND MADE SPECIAL BANS ON ALCOHOL AND PORNOGRAPHY, TO STAMP OUT WIDESPREAD CHILD SEX ABUSE FUELED BY CHRONIC ALCOHOLISM.

"THESE MEASURES OVERTLY DISCRIMINATE AGAINST ABORIGINAL PEOPLES, INFRINGE THEIR RIGHT OF SELF-DETERMINATION AND STIGMATIZE ALREADY STIGMATIZED COMMUNITIES," ANAYA TOLD REPORTERS IN CANBERRA.

(*I HAVE TO BUTT IN HERE: IF THERE IS WIDESPREAD CHILD SEX ABUSE GOING ON - AND THE ABORIGINEES ARE UNABLE TO STOP IT, THEN IT IS THE GOVERNMENT'S DUTY TO HELP THOSE CHILDREN. THE ONLY EMBARRASSMENT THAT ABORIGINEES SHOULD FEEL, IS DUE TO THEIR INABILITY TO PROTECT THEIR OWN CHILDREN. I THINK CHILD ABUSE DISCRIMINATES AGAINST HELPLESS VICTIMS FAR MORE THAN GOVERNMENT PROGRAMS DISCRIMINATE AGAINST CHILD MOLESTORS. SELF-DETERMINATION DOES NOT GRANT THE RIGHT TO MOLEST YOUR CHILDREN. THE GOVERNMENT IS NOT STIGMATIZING THE COMMUNITIES - THE COMMUNITIES HAVE ALREADY STIGMATIZED THEMSELVES.*

*ANAYA REMINDS ME OF "ACTIVISTS" THAT WE HAVE HERE IN THE STATES WHO SACRIFICE INNOCENT VICTIMS TO PROMOTE THEIR IDEOLOGIES*).

ANAYA, THE FIRST UN RAPPORTEUR ON INDIGENOUS PEOPLE TO VISIT ABORIGINAL COMMUNITIES, CONGRATULATED PRIME MINISTER KEVIN RUDD FOR HIS 2008 PARLIAMENTARY APOLOGY TO AUSTRALIA'S ABORIGINES FOR HISTORICAL INJUSTICES.

BUT HE SAID IT WAS CLEAR THE ENTRENCHED RACISM OF THE PAST REMAINED, AND THE ONGOING INTERVENTION INTO COMMUNITIES IN THE NORTHERN TERRITORY CONTINUED TO DISCRIMINATE AGAINST ABORIGINES.

LIFE EXPECTANCY GAP

RUDD HAS MADE INDIGENOUS AFFAIRS A PRIORITY OF HIS GOVERNMENT AND PROMISED TO END THE 17-YEAR GAP IN LIFE EXPECTANCY BETWEEN ABORIGINES AND OTHER AUSTRALIANS.

RUDD HAS SAID HE WOULD CONTINUE THE CONTROVERSIAL INTERVENTION, WHICH HAS WIDESPREAD SUPPORT ACROSS AUSTRALIA BUT HAS BEEN STRONGLY CRITICIZED BY SOME ABORIGINAL GROUPS.

ANAYA'S COMMENTS WILL INCREASE THE PRESSURE ON RUDD TO REVIEW PARTS OF THE INTERVENTION, PARTICULARLY MEASURES THAT QUARANTINE WELFARE PAYMENTS TO MAKE SURE A PROPORTION OF THE PAYMENTS IS SPENT ON FOOD, CLOTHING AND HEALTHCARE.

AN INDEPENDENT REVIEW LAST YEAR FOUND THE INTERVENTION AFFECTED 45,500 ABORIGINAL MEN, WOMEN AND CHILDREN IN MORE THAN 500 NORTHERN TERRITORY COMMUNITIES, AND PROGRESS ON HEALTHCARE AND SECURITY WERE UNDERMINED BY A LACK OF FULL COMMUNITY SUPPORT.

INDIGENOUS AFFAIRS MINISTER JENNY MACKLIN SAID THE GOVERNMENT WAS DETERMINED TO RESTORE LAWS TO OUTLAW RACIAL DISCRIMINATION IN THE NORTHERN TERRITORY AND WELCOMED ANAYA'S VISIT.

"I THINK WHAT'S IMPORTANT IS THAT WE RECOGNIZE WE HAVE A HUGE TASK IN FRONT OF US TO CLOSE THE GAP, TO CLOSE THE LIFE EXPECTANCY GAP, THE EMPLOYMENT GAP, THE GAP IN EDUCATION," MACKLIN TOLD REPORTERS.

"WE KNOW HOW BIG THE TASK IS AND WE CERTAINLY INTEND TO KEEP GETTING ON WITH IT."

AUSTRALIA'S 460,000 ABORIGINES MAKE UP ABOUT 2 PERCENT OF THE POPULATION. THEY SUFFER HIGHER RATES OF UNEMPLOYMENT, SUBSTANCE ABUSE AND DOMESTIC VIOLENCE THAN OTHER AUSTRALIANS.

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FAMOUS QUOTES

SIR KARL RAIMUND POPPER (1902 –1994) 92 YEARS.

HE WAS AN AUSTRIAN AND BRITISH PHILOSOPHER AND A PROFESSOR AT THE LONDON SCHOOL OF ECONOMICS. HE IS CONSIDERED ONE OF THE MOST INFLUENTIAL PHILOSOPHERS OF SCIENCE OF THE 20TH CENTURY, AND ALSO WROTE EXTENSIVELY ON SOCIAL AND POLITICAL PHILOSOPHY. POPPER IS KNOWN FOR REPUDIATING THE CLASSICAL OBSERVATIONALIST/INDUCTIVIST ACCOUNT OF SCIENTIFIC METHOD BY ADVANCING EMPIRICAL FALSIFICATION INSTEAD; FOR HIS OPPOSITION TO THE CLASSICAL JUSTIFICATIONIST ACCOUNT OF KNOWLEDGE WHICH HE REPLACED WITH CRITICAL RATIONALISM, "THE FIRST NON JUSTIFICATIONAL PHILOSOPHY OF CRITICISM IN THE HISTORY OF PHILOSOPHY", AND FOR HIS VIGOROUS DEFENSE OF LIBERAL DEMOCRACY AND THE PRINCIPLES OF SOCIAL CRITICISM THAT HE CAME TO BELIEVE MADE A FLOURISHING "OPEN SOCIETY" POSSIBLE.

"THE SCIENTIFIC TRADITION IS DISTINGUISHED FROM THE PRE-SCIENTIFIC TRADITION IN HAVING TWO LAYERS.

LIKE THE LATTER, IT PASSES ON ITS THEORIES; BUT IT ALSO PASSES ON A CRITICAL ATTITUDE TOWARDS THEM.

THE THEORIES ARE PASSED ON, NOT AS DOGMAS, BUT RATHER WITH THE CHALLENGE TO DISCUSS THEM AND IMPROVE UPON THEM."