

FROM THE FOREWORD OF  
NATIVE SCIENCE  
NATURAL LAWS OF INTERDEPENDENCE,

SCIENCE HAS BEEN AND CAN BE DEFINED MANY DIFFERENT WAYS DEPENDING ON WHO IS DOING THE DEFINING. BUT ONE THING THAT IS CERTAIN IS THAT "SCIENCE" IS CULTURALLY RELATIVE. IN OTHER WORDS, WHAT IS CONSIDERED SCIENCE IS DEPENDENT ON THE CULTURE/WORLDVIEW/PARADIGM OF THE DEFINER. IMMANUEL KANT, WHO DIVIDED KNOWLEDGE INTO APPEARANCES, REALITY, AND THEORY, SUGGESTS THE APPEARANCES OF THE WORLD ARE DEEPLY CONDITIONED BY THE HUMAN SENSORY AND INTELLECTUAL APPARATUS. OTHER BEINGS NO DOUBT EXPERIENCE THE SAME WORLD IN RADICALLY DIFFERENT WAYS. SCIENTIFIC FACTS --- THE APPEARANCES THEMSELVES --- ARE AS MUCH A PRODUCT OF THE OBSERVER'S HUMAN NATURE AS THEY ARE OF AN UNDERLYING REALITY. WE SEE THE WORLD THROUGH PARTICULARLY HUMAN GOGGLES (HERBERT 1985)...

..."ALBERT EINSTEIN SAID THAT THE BUSINESS OF SCIENCE IS 'REALITY.'....."IF SCIENCE IS A SEARCH FOR REALITY AND IF SCIENCE IS A SEARCH FOR KNOWLEDGE AT THE LEADING EDGES OF THE HUMANLY KNOWABLE, THEN THERE ARE "SCIENCES" OTHER THAN THE WESTERN SCIENCE OF MEASUREMENT. ONE OF THESE OTHER SCIENCES IS NATIVE AMERICAN SCIENCE. NATIVE AMERICAN SCIENCE IS INCOMPREHENSIBLE TO MOST WESTERNERS BECAUSE IT OPERATES FROM A DIFFERENT PARADIGM. MEASUREMENT IS PART OF NATIVE AMERICAN SCIENCE BUT DOES NOT PLAY THE FOUNDATIONAL ROLE THAT IT PLAYS IN WESTERN SCIENCE. MEASUREMENT IS ONLY ONE OF MANY FACTORS TO BE CONSIDERED."

"IN ORDER TO APPRECIATE AND "COME TO KNOW" IN THE NATIVE AMERICAN SCIENCE WAY, ONE HAS TO UNDERSTAND THE CULTURE/WORLDVIEW/PARADIGM OF NATIVE AMERICAN PEOPLE. FOR THOMAS KUHN, A PARADIGM IS A WHOLE WAY OF WORKING, THINKING, COMMUNICATING AND PERCEIVING WITH THE MIND. A PARADIGM INCLUDES TACIT INFRASTRUCTURES, WHICH ARE MOSTLY UNCONSCIOUS, PERVADING THE WORK AND THOUGHT OF A COMMUNITY (BOHM & PEAT 1987). WHAT IS THE NATIVE PARADIGM ABOUT?"

THE NATIVE AMERICAN PARADIGM IS COMPRISED OF AND INCLUDES IDEAS OF CONSTANT MOTION AND FLUX, EXISTENCE CONSISTING OF ENERGY WAVES, INTERRELATIONSHIPS, ALL THINGS BEING ANIMATE, SPACE/PLACE/RENEWAL AND ALL THINGS BEING IMBUED WITH SPIRIT. GARY WITHERSPOON, STUDYING NAVAJO LANGUAGE AND ART OBSERVES, "THE ASSUMPTIONS THAT UNDERLIE THIS DUALISTIC ASPECT OF ALL BEING AND EXISTENCE IS THAT THE WORLD IS IN MOTION, THAT THINGS ARE CONSTANTLY UNDERGOING PROCESSES OF TRANSFORMATION, DEFORMATION, AND RESTORATION, AND THAT THE ESSENCE OF LIFE AND BEING IS MOVEMENT" (WITHERSPOON 1977). THE CONSTANT FLUX NOTION RESULTS IN A "SPIDER WEB" NETWORK OF RELATIONSHIPS. IN OTHER WORDS, EVERYTHING IS INTERRELATED. IF EVERYTHING IS INTERRELATED, THEN ALL OF CREATION IS

RELATED. IF HUMAN BEINGS ARE ANIMATE AND HAVE SPIRIT, THAN "ALL MY RELATIONS" MUST ALSO BE ANIMATE MUST ALSO HAVE SPIRIT. WHAT NATIVE AMERICANS REFER TO AS "SPIRIT" AND ENERGY WAVES ARE THE SAME THING"...

"I DEFINE SCIENCE AS PURSUIT OF KNOWLEDGE. THE NATIVE AMERICAN MIND IS IN CONSTANT SEARCH FOR MEANING AND REALITY IN THE CONSTANT FLUX, NOT ONLY OF THE EARTH, BUT ALSO OF THE COSMOS. ONE CAN READILY APPLY EINSTEIN'S DEFINITION OF SCIENCE AS A SEARCH FOR REALITY TO NATIVE AMERICANS. FOR EINSTEIN AND WESTERN SCIENCE, CREATION AND EXISTENCE WERE MADE IN A CERTAIN WAY BY GOD AND WILL ALWAYS REMAIN THE SAME; EVERYTHING AND ANYTHING IN CREATION AND EXISTENCE JUST NEEDS TO BE DISCOVERED BY HUMANS. NOTHING IS CERTAIN UNLESS IT CAN BE REFERRED TO AS A REGULAR PATTERN AFTER LONG-TERM OBSERVATION. BUT FOR THE NATIVE AMERICAN, EVEN REGULARITIES ARE SUBJECT TO CHANGE. NATIVE AMERICANS NEVER CLAIM REGULARITIES AS LAWS, OR AS FINALITIES. THE ONLY CONSTANT IS CHANGE."

LEROY LITTLE BEAR, J.D.

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**NATIVE SCIENCE -**  
**NATURAL LAWS OF INTERDEPENDENCE**  
**BY GREGORY CAJETE, PH.D**