

MATTERS OF CONSCIENCE®

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ECONOMICS – AND BEYOND PART 2

LAND WAS THE FIRST SOURCE OF MAN'S WEALTH ENABLING HIM TO ENGAGE IN AGRICULTURE, FORESTRY, WINE GROWING, GAME HUNTING, WATER MANAGEMENT AND THE RAISING OF LIVESTOCK. IN EUROPE, OVER HUNDREDS OF YEARS, GREAT ESTATES WERE FORMED BY BIRTH, MARRIAGE AND CONQUEST. THESE HOLDINGS ACTED AS MOSTLY CASHLESS ECONOMIC ENGINES PROVIDING SECURITY, EMPLOYMENT, HOUSING AND FOOD FOR THEIR MANY WORKERS; AND SOME MEASURE OF PURCHASING POWER THAT WAS CRITICAL TO THE SUCCESS OF SMALL BUSINESSES IN THE ADJOINING VILLAGES.

THE LAND STANDARD FOR WEALTH/POWER CONTINUED WITHOUT SERIOUS CHALLENGE UNTIL THE ARRIVAL OF THE GREAT AGE OF MARITIME EXPLORATION IN THE FIFTEENTH CENTURY WHICH GREATLY EXTENDED THE RANGE AND VALUE OF THEN KNOWN WORLD TRADE. IN ADDITION TO EXPLORATION'S LURE OF TREASURE, SHIPS COULD TRANSPORT AND EXCHANGE CARGOES, MOVING DAY AND NIGHT WITHOUT HAVING TO FACE THE DANGERS OF DIFFICULT TERRAIN.

THE SEA HAD ITS OWN PERILS, BUT TRANSOCEAN TRADE AND TRAVEL WAS AN ENORMOUS STEP IN SHRINKING THE WORLD AND EXPANDING CONTACT WITHIN IT. IT ALSO PROVIDED THE OPPORTUNITY FOR PEOPLE TO SETTLE AND OWN PROPERTY IN FOREIGN LANDS WHICH WAS EXTENDED TO A NATIONAL SCALE IN THE PRACTICE OF COLONIALISM IN THE 17TH, 18TH AND 19TH

CENTURIES. WHILE THE ENTERPRISING EUROPEAN COULD PRODUCE WEALTH FROM MINES, FORESTS OR FARMS ANYWHERE IN THE WORLD, TRADE IN THESE PRODUCTS WAS A RELATIVELY "THIN" MARKET IN TERMS OF DEMAND DUE TO ITS RELATIVELY SMALL AND STABLE CONSUMER BASE.

THE ECONOMIC PUSH PROVIDED BY MARITIME TRADE, AS WIDE AS IT WAS, WAS SOON TO BE SUPPLANTED IN A RELATIVELY SHORT TIME BY A FAR MORE POWERFUL AND RICHER FORCE IN THE FORM OF THE INDUSTRIAL REVOLUTION (IR) WHICH WE CAN DATE AS HAVING COMMENCED WITH JAMES WATT'S DEVELOPMENT OF THE STEAM ENGINE IN 1769 AND WHICH EXTENDED WELL THROUGH THE 19TH CENTURY. AMONG OTHER IMPACTS, IT ESTABLISHED THE BASIS FOR OUR CURRENT TECHNOLOGY ECONOMY.

FOR EXAMPLE, IN THE BRIEF HALF CENTURY FROM 1815 THROUGH THE END OF OUR CIVIL WAR THE FOLLOWING DEVELOPMENTS OCCURRED:

- CANNED FOOD – FRANCE C. 1810
- GAS LAMP – ENGLAND 1815
- STETHOSCOPE – FRANCE 1819
- PORTLAND CEMENT – ENGLAND 1824
- FRICTION MATCH – ENGLAND 1827
- SEWING MACHINE – FRANCE 1829
- ELECTROMAGNETIC INDUCTION – ENGLAND 1831

IN THIS ISSUE: WE CONTINUE OUR EXPLORATION OF CONTEMPORARY AMERICAN ECONOMICS WITH EMPHASIS ON THE CONFRONTATION BETWEEN THE MAJOR FORCES OF INCREASING POPULATION AND DIMINISHING NATURAL RESOURCES.

OUR NEXT ISSUE: WILL AGAIN BE DEVOTED TO ECONOMICS WITH EMPHASIS ON CHINA, THE EUROPEAN CRISIS AND SOME ARRESTING DOMESTIC ANOMALIES.

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MECHANICAL REAPER – USA 1834
COMPRESSED AIR REFRIGERATOR – USA 1844
TELEGRAPH - USA 1844
VULCANIZED RUBBER – USA 1844
ELEVATOR – USA 1853
BESSEMER STEEL PROCESS – ENGLAND 1856
OIL DRILLING – USA 1859
ELECTRIC CELL BATTERY – FRANCE 1859
PASTEURIZATION – FRANCE 1860
GATLING GUN – USA 1865

THIS SELECTION IS A RANDOM, DARTBOARD TYPE, BUT FAVORS ENGLAND, FRANCE AND THE US AND CALLS ATTENTION TO THE ABSENCE OF COUNTRIES SUCH AS GERMANY, SWEDEN, THE NETHERLANDS AND ITALY, ALL OF WHICH HAD AT LEAST ONE OUTSTANDING UNIVERSITY AND CREDIBLE EDUCATIONAL STANDARDS.

BUT MOST OF EUROPE PRIOR TO THE IR LACKED THE COMMITMENT TO ELECTED GOVERNMENT THAT EVOLVED IN ENGLAND AND FRANCE AND THE FREEDOM OF THOUGHT AND POLITICS THAT ACCOMPANIED THE ENLIGHTENMENT. INDEED, NATIONAL IDENTITIES HAD YET TO BE CARVED OUT OF THE MANY SMALL, INDEPENDENT PRINCIPALITIES THAT HAD GROWN AND PROSPERED UNDER EUROPE'S MONARCHIES.

VIEWING THIS LIST, ONLY FOUR ITEMS (THE GAS LAMP, TELEGRAPH, GATLING GUN AND FRICTION MATCH) HAVE BEEN OVERTAKEN AND BYPASSED BY COMMERCIAL HISTORY. THE REST ARE STILL IN WIDE USE AND HAVE BECOME BASIC SCIENTIFIC SUPPORTS OF ECONOMIES THROUGHOUT THE WORLD.

HISTORY IS LITTERED WITH THE FAILURE OF FRIVOLOUS INVENTIONS WHOSE PURPOSE WAS NOT SEEN AS ON THE GRAND SCALE EVEN BY THEIR INVENTORS. HERE, WE NOTE THE STETHOSCOPE WHICH WAS DESIGNED TO PRESERVE FEMININE MODESTY BY ENABLING AN EXAMINING PHYSICIAN TO LISTEN TO A PATIENT'S HEART BEAT WITHOUT MAKING PHYSICAL CONTACT WITH HER CHEST. REGARDLESS OF ITS ORIGINAL PURPOSE, HOWEVER, THE STETHOSCOPE HAS BEEN IN CONSTANT AND POPULAR USE FOR ALMOST TWO HUNDRED YEARS AND IS STILL THE INSTRUMENT OF CHOICE FOR MOST DOCTORS THROUGHOUT THE WORLD TODAY.

AND, WHILE ORIGINALLY INTENDED TO PRESERVE FEMALE PRIVACY, GIVEN WHAT WE NOW KNOW ABOUT MICROBIAL TRANSMISSION AND INFECTION, ESPECIALLY IN HOSPITALS, IT IS QUITE LIKELY THAT THE STETHOSCOPE'S USE HAS SAVED MILLIONS OF LIVES

NOT ALL AGES OR PERIODS ARE EQUALLY FOCUSED, BUT CERTAINLY THE 1815-65 ONE WAS UNUSUAL, ESPECIALLY CONSIDERING THE BASE FROM WHICH IT STARTED. TECHNOLOGY IS A PROLIFIC PARENT. ITS OFFSPRING ARE EVERYWHERE EXHIBITING VARYING DEGREES OF SUCCESS OR FAILURE, BUT WE ARE NOT GIVEN THE MEANS TO PREDICT WITH ANY ASSURANCE WHEN, WHERE OR HOW THE NEXT SUCCESS WILL BE ACHIEVED. WE ONLY KNOW THAT TECHNOLOGY CAN CHANGE THE NATIONS, CULTURES AND SOCIETIES THAT INHABIT OUR EARTH.

LET'S LOOK AT A MOMENT IN HISTORY WHICH POWERED THE IR. JAMES WATT'S FUNCTIONING STEAM ENGINE WAS FOLLOWED ONLY A FEW DECADES LATER IN 1831 BY MICHAEL FARADAY'S DESCRIPTION OF THE NATURE AND USE OF ELECTROMAGNETIC INDUCTION. THESE TWO COMPLETELY INDEPENDENT ACHIEVEMENTS BY A SCOT AND AN ENGLISHMAN GAVE THE WORLD THE MEANS TO POWER THE IR BY THE STEAM ENGINE AND THE ELECTRIC MOTOR. THEY PERFORMED A VAST NUMBER OF FUNCTIONS, SMALL AND LARGE, WHICH DRAMATICALLY INCREASED THE RATE AND VARIETY OF PRODUCTION AND THE SPEED OF DELIVERY OF MANUFACTURED GOODS.

THEY TURNED LATHES AND DRILLS, POWERED LOOMS AND TRANSFORMED TRAVEL ACROSS LAND AND SEA. THEY PROVIDED THE MEANS FOR DESIGNING AND BUILDING NEW MACHINES FOR CONSTRUCTION AND PRODUCTION PURPOSES. THEY HUMMED AND WHISTLED AND OCCASIONALLY BROKE DOWN OR EXPLODED, BUT THEY WERE ESSENTIAL ENABLERS OF THE IR.

BUT THE IR, AS PERVASIVE AND PROLIFIC AS IT WAS, WAS NOT A SELF-SUSTAINING PHENOMENON. TO ASSURE ITS CONTINUING SUCCESS AND GROWTH IT NEEDED A CONSTANT SUPPLY OF FUEL. THAT FUEL WAS THE SAME THROUGHOUT THE WORLD. IT WAS THE OTHER SIDE OF THE PRODUCTION COIN. IT WAS POPULATION.

THE IR BROUGHT ABOUT A REVOLUTION IN THE PRODUCTION AND MARKETING OF GOODS. IT WAS NOTHING SHORT OF A MIRACLE FOR ITS TIME AND PLACE, BUT TO ACHIEVE ITS FULL POTENTIAL IT REQUIRED A PURCHASING POPULATION WHOSE GROWTH COULD MATCH ITS TECHNICAL PROGRESS. WITHOUT THIS PARALLEL GROWTH IN DEMAND, ITS MACHINERY WOULD HAVE SLOWED AND BECOME SILENT, ITS PLANTS WOULD HAVE CLOSED AND ITS WORKERS WOULD HAVE BEEN IDLED.

“... AND OUR CIVILIZATION WOULD HAVE TURNED ELSEWHERE ON ITS PATH TOWARDS DESTINY.”

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A STAGNANT POPULATION BASE COULD NOT HAVE SUPPORTED THE IR OR ITS CAPABILITIES. IT WOULD HAVE BECOME AN ANOMALOUS MOMENT IN HISTORY THAT FAILED ITS EXPECTATIONS, AND OUR CIVILIZATION WOULD HAVE TURNED ELSEWHERE ON ITS PATH TOWARDS DESTINY.

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SOMEWHERE AROUND THE BEGINNING OF THE NINETEENTH CENTURY OUR WORLD'S HUMAN POPULATION IS ESTIMATED TO HAVE REACHED THE ONE BILLION LEVEL¹ — A SYMBOLICALLY AND PHYSICALLY MOMENTOUS EVENT WHICH TOOK SEVERAL MILLION YEARS TO ACCOMPLISH. THIS POPULATION WAS SPREAD OVER THE ENTIRE WORLD MOST OF WHICH IN 1800 WAS EITHER UNEXPLORED OR INHABITED BY PRIMITIVE NATIVE CULTURES. FOR OUR PURPOSES 1800 MARKS BOTH THE BIRTH OF THE IR AND THE ONE BILLION POPULATION BASE FROM WHICH IT RAPIDLY EXPANDED.

BY 1927 WORLD POPULATION HAD DOUBLED TO TWO BILLION. THIS 127 YEAR PERIOD WAS ONE OF UNEQUALLED INDUSTRIAL GROWTH WHICH INCLUDED SUCH MAJOR DEVELOPMENTS AS THE AIRPLANE, AUTOMOBILE, TELEPHONE, TELEGRAPH, ELECTRIC LIGHT, PHOTOGRAPHY, STEEL, ETC. IT ENDED WITH LINDBERGH'S SOLO FLIGHT ACROSS THE ATLANTIC AFTER WHICH MUCH OF OUR TECHNOLOGICAL ATTENTION WAS DIRECTED LESS TOWARDS BASIC INDUSTRIES AND MORE TOWARD THE NEWER FIELDS OF FLIGHT, RADIO, ELECTRONICS, COMPUTERS AND OUTER SPACE. CHARLES LINDBERGH, IT CAN BE SAID, PUT THE WRIGHT BROTHERS' AIRPLANE TO ITS FIRST GREAT TEST AND CUT OUR TIES TO EARTH. FROM THAT MOMENT ON MANKIND COULD DREAM AND IMAGINE THINGS THAT HAD NOT BEEN POSSIBLE BEFORE.

THE THIRD BILLION OF POPULATION WAS ADDED IN ONLY THIRTY-THREE YEARS WITH SUBSEQUENT INCREASES OCCURRING ROUGHLY EVERY 10 TO 15 YEARS. THIS PAST OCTOBER THE EARTH'S POPULATION REACHED SEVEN BILLION WITH INDICATIONS THAT IT WOULD EXTEND TO NINE BILLION BY HALF CENTURY AND TEN BILLION SOON THEREAFTER.

THIS KIND OF CONTINUING, HIGH GROWTH IS MADE POSSIBLE BY WEALTH, BY HEALTH, BY THE AVAILABILITY OF LAND AND OTHER NATURAL RESOURCES AND, OF COURSE, MAN'S POLITICAL AND ECONOMIC COMMITMENT TO THE CONCEPT OF GROWTH AS OUR CIVILIZATION'S GREAT PROVIDER.

GROWTH, ESPECIALLY POPULATION GROWTH, HAS BECOME THE NECESSARY INGREDIENT, THE KEY, FOR MAN TO ENGAGE IN AND REALIZE THE SAME FANTASIES THAT MADE POSSIBLE THE GREAT AGE OF MARINE EXPLORATION IN THE 15TH AND 16TH CENTURIES, THE 19TH CENTURY'S AGE OF COLONIALISM, OUR HORSE AND WAGON EXPANSION FROM THE ATLANTIC TO THE PACIFIC COAST AND OUR SUBSEQUENT PUSH INTO SPACE.

IN ECONOMIC TERMS THE IR'S TECHNOLOGY, AND THE POPULATION THAT FUELED IT, COMBINED IN SUCH A WAY AS TO CREATE AN "IRRESISTIBLE FORCE". THIS ECONOMIC MODEL THAT WE HAVE BUILT AND EMPLOYED FROM THE EARLIEST

DAYS OF THE IR PLACES EVER LARGER DEMANDS UPON THE RESOURCES IT REQUIRES TO SUSTAIN ITSELF. THIS IS THE CRUX OF THE PROBLEM THAT FACES MUCH OF OUR ECONOMIC, POLITICAL AND MILITARY/FOREIGN POLICY THOUGHT IN OUR TWENTY-FIRST CENTURY.

WITH REGARD TO THE LATTER, IT IS ESPECIALLY COMPLICATED BY THE PROLIFERATION OF NUCLEAR WEAPONRY TO EIGHT COOPERATING NATIONS AND TWO MORE (NORTH KOREA AND IRAN) PRESSING THEIR OWN DEVELOPMENT OUTSIDE OF ANY INVOLVEMENT WITH INTERNATIONAL CONTROL ENTITIES SUCH AS THE UN OR THE INTERNATIONAL ATOMIC ENERGY AGENCY.

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WOLFMAN MEETS GODZILLA

BACK IN THE 1930'S MOVIES BECAME ONE OF THE MOST POPULAR AND SUCCESSFUL WAYS TO RELIEVE THE PAIN OF THE GREAT DEPRESSION (GD). FOR THOSE WHO COULD AFFORD THE PRICE OF ADMISSION, HOLLYWOOD'S BEST TALENT, SCRIPTS AND PHOTOGRAPHY WERE ON DISPLAY AT THEIR MANY NEIGHBORHOOD THEATRES. THE INDUSTRY WAS A HIGHLY PROFITABLE ONE AND THERE WAS FIERCE COMPETITION BETWEEN POWERFUL GROUPS IN BOTH ITS PRODUCTION AND DISTRIBUTION ARMS.

ORIGINALLY, MOVIE HOUSES SHOWED A PROGRAM OF SEVERAL SHORT FILMS, BUT FOLLOWING WWI FILMS BECAME LONGER AND BY THE '30S THE AVERAGE RUNNING TIME OF A FEATURE FILM WAS ABOUT NINETY MINUTES. TO EXPAND THEIR PRODUCT, AND THEREBY ATTRACT MORE CUSTOMERS, FILM PRODUCERS AND THEATRE OWNERS EMBRACED THE CONCEPT OF "THE DOUBLE FEATURE" WHICH COMBINED A LOW COST "B" FILM WITH THEIR PRIMARY PRODUCT.

THIS WAS A MARKETING "WIN" FOR ALL CONCERNED. THE STUDIOS COULD GAIN EXTRA REVENUES FROM THE SALE OF THE "B" FILM. THE THEATRE OWNERS AND DISTRIBUTORS (AND OFTEN THEY WERE THE SAME) GAINED MORE PRODUCT TO ATTRACT AUDIENCES AND COULD SELL MORE CANDY, NUTS, ETC TO VIEWERS. AND THE PUBLIC HAD THE ADVANTAGE OF VIEWING TWO FILMS FOR THE PRICE OF ONE AND BEING ABLE TO SPEND AN EXTRA HOUR PLUS IN THE THEATRES' SAFETY AND DARKNESS BEFORE RETURNING OUTSIDE TO THE HARSH REALITY OF GD AMERICA.

THE AMERICAN "HORROR" MOVIE DERIVES FROM THE GD'S DOUBLE FEATURE "B" FILMS. THEY LACKED TOP LEVEL STARS, BUT OFTEN INCLUDED EXCEPTIONALLY GOOD MUSIC IN THEIR SOUND TRACKS. SPECIAL EFFECTS WERE PRIMITIVE BY ANY STANDARDS AND COSTUMES WERE JUST AS BASIC. THE ACTING WAS GENERALLY FLAT AND THE SCRIPTS PREDICTABLE. FOR THE "HORROR" FILM, THE EVIL MONSTER APPEARED AND MOVED IN WAYS THAT SEEM LAUGHABLY PRIMITIVE BY TODAY'S TECHNOLOGY.

FOLLOWING WWII THE DOUBLE FEATURE EXITED THE FILM INDUSTRY AND "HORROR" FILMS WERE UPGRADED SO

THAT THEY COULD BE OFFERED AT LESS THAN “A” FILM PRICES TO THE MILLIONS OF MOVIE GOERS OF ALL AGES FREED FROM WARTIME AUSTERITY AND RESTRICTIONS.

WOLFMAN MEETS GODZILLA (WVG) WAS SUCH A FILM. IT BOASTED A NEW REALISM IN ITS SPECIAL EFFECTS DERIVED FROM WARTIME TECHNOLOGY. ITS ADVERTISING CAMPAIGN WAS BUILT AROUND THE IMAGE OF THESE TWO FANTASTIC CREATURES FACING OFF BEFORE COMBAT WITH LIPS CURLED AND FANGS SHOWING.

IN THE BACKGROUND, BACKLIT BY A RED GLOW WAS A CITY SKYLINE IN SMALL SCALE. THIS RENDERING IN REDUCED SIZE COULD BE INTERPRETED TO MEAN THAT THE CITY WAS A GREAT DISTANCE AWAY OR THAT THE TWO MONSTERS WERE OF GARGANTUAN SIZE. GIVEN THE HOLLYWOOD MENTALITY, THE LATTER IS MORE LIKELY.

TODAY, ABOUT FIFTY YEARS LATER, THE DETAILS OF THE FILM’S PLOT AND CHARACTERS ARE NO LONGER REMEMBERED, BUT THE IDENTIFYING IMAGE OF ITS ADVERTISING IN NEWSPAPERS, MAGAZINES, POSTERS AND BILLBOARDS ENDURES. IN IT WE ARE PRESENTED WITH TWO EQUALLY HORRIFYING AND THREATENING FORCES ABOUT TO ENGAGE IN COMBAT IN WHICH ONE OR BOTH MAY BE DESTROYED. IT IS NO LESS THAN A RESTATEMENT OF THE CLASSIC MOMENT “WHEN AN IRRESISTIBLE FORCE MEETS AN IMMOVABLE OBJECT”.

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OUR WORLD IS NOW IN SUCH A MOMENT. THE CONTESTANTS ARE NOT AS CLEARLY AND PUBLICLY DEFINED AS WOLFMAN AND GODZILLA, BUT THE FORCES AT WORK FAR SURPASS ANYTHING THAT HOLLYWOOD COULD OFFER.

WE REFER TO THE “IRRESISTIBLE FORCE” OF RELENTLESS GEOMETRIC POPULATION GROWTH NOW BEING APPLIED TO THE “IMMOVABLE OBJECT” OF OUR PLANET’S FINITE NATURAL RESOURCES. WE ARE STILL IN THE EARLY STAGES OF THE STRAIN IMPOSED BY THIS PROCESS, BUT COMPLACENCY IS NOT AN OPTION, AS TIME IS NOT WORKING ON OUR BEHALF.

FIRST, WE MUST CLEARLY IDENTIFY THE NATURE OF THE THREAT WE FACE. IT IS NOT A WAR, IT IS NOT A CONFLICT OF POLITICAL OR RELIGIOUS IDEOLOGIES; IT IS NOT RACIAL OR ETHNIC IN ITS ORIGIN; IT DOES NOT ENGAGE OR SEEK TO IMPOSE THE SOCIAL OR ECONOMIC TENETS OF COMMUNISM, FASCISM OR DEMOCRACY; IT IS GLOBAL; IT DOES NOT DERIVE FROM HISTORICAL ANTECEDENTS SUCH AS TERRITORIAL ACQUISITION OR COLONIALISM; IT OCCURS IN FULL VIEW OF THE WORLD’S GOVERNMENTS, BUT RECEIVES LITTLE ATTENTION; IT HAS BECOME, AND WILL BECOME EVEN MORE, STATISTICALLY SIGNIFICANT, BUT FEW PEOPLE ARE INFORMED ABOUT IT; AND ITS ABILITY TO ALTER OUR EXISTENCE ON PLANET EARTH INCREASES EXPONENTIALLY.

REDUCED TO SIMPLER TERMS, WE DEAL WITH TWO MAJOR, BASIC FORCES — OUR RAPIDLY EXPANDING GLOBAL POPULATION AND THE EQUALLY RAPID EXHAUSTION OF OUR WORLD’S FINITE NATURAL RESOURCES REQUIRED TO FEED, FUEL AND ENCOURAGE IT. THESE TWO FORCES FACE EACH OTHER

WITH THE SAME NATURAL AND FIERCE ANTAGONISM AS DID WOLF MAN AND GODZILLA.

THE IR (AND THE AGE OF THE ENLIGHTENMENT WHICH PRECEDED AND TECHNOLOGICALLY ENABLED IT) REVEAL THREE INTERTWINED PROCESSES AT WORK. MORE PEOPLE ENJOYING NEW POLITICAL AND SCIENTIFIC METHODS CALLED FOR THE CONSUMPTION OF MORE RESOURCES WHICH COULD BE PROVIDED BY EXPLORING AND APPROPRIATING “AVAILABLE” LAND IN EITHER UNDEVELOPED AREAS OR THOSE INHABITED BY PRIMITIVE INDIGENOUS POPULATIONS. THIS IS IMPORTANT BECAUSE THIS “AVAILABILITY” OF LAND FOR MANY YEARS OBSCURED THE TRUE IMPACT OF POPULATION GROWTH.

THE SECOND PROCESS IS THAT MORE TECHNOLOGY REQUIRES MORE RESOURCES TO FUEL IT. WHEN WOOD WAS THE PRIMARY FUEL FOR HEATING, TREES WERE ITS ONLY SOURCE. THE SPREAD OF TECHNOLOGY OFFERED BY THE IR PRODUCED COAL, OIL, GAS AND STEAM SYSTEMS ALL OF WHICH NEEDED THEIR OWN TOOLS AND SOURCES. THIS TYPE OF PROLIFERATION HAS BEEN NOTABLY EVIDENT IN THE PLASTICS INDUSTRY WHICH GREW FROM PETROLEUM CHEMISTRY AND HAS SPAWNED ITS OWN FAMILY OF NEW PRODUCTS, MATERIALS AND TECHNIQUES.

AND THE THIRD PROCESS IS THAT THE GROWING CONSUMPTION OF FUEL REQUIRED TO FEED INCREASED POPULATION WILL ESCALATE SOCIETY’S DEMANDS UPON FINITE RESOURCES.

THESE RESOURCES WILL BE CALLED UPON TO FEED NOT ONLY THE MOUTHS AND MACHINES OF THE MOMENT, BUT ALSO THE NEW POPULATIONS AND SUCCESSIVE TECHNOLOGIES THAT OUR COMMITMENT TO COMPETITION DICTATES.

THE ELEMENT OF COMPETITION IS ALWAYS PRESENT IN HUMAN AFFAIRS, ALTHOUGH IT HAS PERIODS AND PLACES OF DIFFERENT EMPHASIS. FOR OUR TIME AND PLACE, IT IS PROBABLY AT ITS HIGHEST LEVEL. COMMERCIALY, POLITICALLY, HISTORICALLY, MILITARILY, RELIGIOUSLY IT SEEMS AT FULL THROTTLE WITHOUT LETUP, WHILE THE RESOURCES UPON WHICH IT DEPENDS ARE INEVITABLY DIMINISHED.

IN WAR OR PEACE, PEOPLE AND THEIR MACHINES DEMAND FUEL — OIL, COAL, FOOD, WATER, GAS, ELECTRICITY, STEAM. THESE DEMANDS DO NOT REST. THEY ARE ENDLESS AND ARE STEADILY INCREASED BY NUMBERS OF PEOPLE — WHAT THEY NEED AND THEN WHAT THEY BUY BEYOND THEIR NEED.

IN THE PAST, THESE FORCES HAVE EBBED AND FLOWED AND MAY HAVE BEEN TWEAKED OR STEERED BY GOVERNMENT ACTION. THEIR ROOTS, HOWEVER, ARE IN HUMAN BEHAVIOR AND, IF THEY ARE TO BE CONTAINED, IT WILL HAVE TO BE BY HUMAN EFFORTS.

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STRUCTURAL INTERDEPENDENCE

OUR WORLD CONSISTS OF ELEMENTS, SPECIES, PATTERNS, MATERIALS AND FORCES THAT ARE JOINED BY THE LAWS OF PHYSICS AND CHEMISTRY. THEY REVEAL THEMSELVES

TO US IN WAYS THAT RANGE FROM ELEGANT BEAUTY TO BRUTISH CRUELTY.

OVER THE PERIOD OF MANKIND'S DEVELOPMENT WE HAVE BEEN GIVEN EVER MORE REVEALING GLIMPSES OF THE WAY THESE STRUCTURAL PARTS ARE INTERCONNECTED AND HOW THEY WORK, ALTHOUGH EVEN OUR CURRENT KNOWLEDGE IS FAR FROM COMPLETE. WE ARE ISOLATED AND LIMITED TO OUR OWN WORLD, AND HAVE NO WAY TO JUDGE THE EXTENT OF KNOWLEDGE THAT MIGHT EXIST ELSEWHERE.

BUT PERHAPS THAT'S JUST AS WELL, AS WE HAVE IGNORED MANY OF THE EXAMPLES AND LESSONS OF STRUCTURAL INTERDEPENDENCE THAT ARE READILY AVAILABLE TO US ON OUR OWN PLANET.

OF THESE, THE INNUMERABLE FORMS OF LIFE THAT WE HAVE CLASSIFIED AS SPECIES OFFER THE MOST TELLING EXAMPLE. AND, AS OUR STUDY OF NATURAL SCIENCE IS ABLE TO REACH AND PENETRATE THE MOST REMOTE AREAS WITH INSTRUMENTS CAPABLE OF OBSERVING, MEASURING AND RECORDING THEIR LIFE FORMS, THE MESSAGE OF INTERDEPENDENCE BECOMES CLEARER.

WE DO NOT KNOW HOW MANY SPECIES INHABIT OUR PLANET. WE ARE AWARE THAT SOME DIE OFF AND WE ASSUME THAT NEW ONES APPEAR, BUT WE ARE NOT PRESENT TO WITNESS THEIR BIRTH WHICH, WHETHER BY MUTATION OR EVOLUTION, REMAINS A MOSTLY PRIVATE PROCESS.

WITHIN THE ORDERS OF LIFE ON OUR PLANET THERE OCCUR DIFFERENCES OF SIZE, MOTION, STRENGTH, AGGRESSION AND PRESERVATION SKILLS THAT DETERMINE THE FOOD CHAIN — I.E., BASICALLY WHO PREYS ON WHOM. FOOD CHAINS TEND TO BE CONSISTENT OVER TIME, BUT CAN VARY BY LOCATION DEPENDING WHICH SPECIES ARE PRESENT.

WHEREVER THEY ARE FOUND, HOWEVER, THEY ARE MODELS OF THE INTERDEPENDENCE OF LIFE, AS THE DEMISE OF ONE WILL INEVITABLY REARRANGE BOTH ITS PARTICULAR CHAIN AND OTHERS CONNECTED BY THE WEB OF PREDATORS AND VICTIMS.

THIS PROCESS, WHETHER MARINE OR TERRESTRIAL, HAS TAKEN PLACE SINCE THE BEGINNINGS OF LIFE ON EARTH. ITS WEB OF CONNECTIONS AND CIRCUMSTANCES IS SO INTRICATE AS TO DEFY OUR FULL UNDERSTANDING. OVER THE MILLENNIA IT HAS BEEN FLUID, ADAPTIVE AND INSTINCTIVE. AND OVER TIME IT HAS BEEN ABLE TO RESTORE BALANCE WHEN IT HAS BEEN LOST AS THE RESULT OF CATASTROPHIC EVENTS.

HUMAN INTERFERENCE IS OF A DIFFERENT KIND, AS THE ORIGINAL IMPACT IS USUALLY NOT FOLLOWED BY A PERIOD OF NATURAL RESTORATION. THE ACTIVITIES IN BRAZIL'S VAST RAIN FOREST SERVE AS AN EXAMPLE OF HOW HUMAN "DEVELOPMENT" CAN SERVE A DEATH SENTENCE UPON THE ECOLOGY OF AREAS IN WHICH IT TAKES PLACE.

THE FIRST STAGE USUALLY INVOLVES THE BULLDOZING OF EXISTING FOREST GROWTH, WHICH IS OFTEN BURNED, AND THEN THE SITE'S DEVELOPMENT FOR MINING, ROAD CONSTRUCTION OR INDUSTRIAL/RESIDENTIAL USE. ALL THESE ACTIVITIES LEAVE WASTE, MUCH OF WHICH FINDS ITS WAY INTO THE DRAINAGE PATTERN OF NEARBY PONDS, RIVERS OR LAKES.

THE NEXT STEP IS THE ACTUAL DRILLING (OIL), MINING (GOLD OR OTHER MINERALS), OR INDUSTRIAL CONSTRUCTION.

DIFFERENT END USES REQUIRE DIFFERENT METHODS AND EQUIPMENT, BUT ALL ARE ECOLOGICALLY INVASIVE AND DESTRUCTIVE. AS CONSTRUCTION PROCEEDS, THE SITE BECOMES HOST TO MORE PEOPLE AND THEIR WASTE AND, OF COURSE, MORE CONSTRUCTION FOR THEIR HOUSING.

IN THE FINAL STAGE OF OPERATION, THE OIL WELLS AND THE MINES YIELD THEIR BLACK OR YELLOW GOLD, THE ROAD CARRIES ITS SHARE OF POLLUTING TRAFFIC AND THE MANUFACTURING PLANT HUMS SMOOTHLY AND TURNS OUT ITS ASSIGNED NUMBER OF UNITS TO BE TRANSPORTED AND PROFITABLY SOLD ELSEWHERE.

THIS LAST STAGE INCREASES THE CREATION AND DISPOSAL OF WASTE IMMENSELY. MOST OF IT IS DISCARDED NEARBY EITHER ON THE NOW DENUDED LAND, IN RETAINING PITS OR IN THE WATER BODIES MENTIONED ABOVE.

THE RESULT IS NOT PRETTY. BOTH SURFACE AND DEEP SHAFT MINING DESTROY THE LANDSCAPE. SMALL SCALE SURFACE GOLD MINING IS ESPECIALLY DESTRUCTIVE AS IT TAKES PLACE IN STREAMS WHICH ARE, THEREFORE, DIRECTLY POLLUTED. VIEW THESE JUNGLE SITES IN OPERATION FOR ANY LENGTH OF TIME AND THEY WILL REMIND YOU OF A MOONSCAPE.

BUT, YOU MAY SAY, TIME PASSES AND THE LANDSCAPE CAN BE RESTORED AND IMPROVED WITH NEAT AND HEALTHY PLANTING. TRUE, BUT THIS STEP IS OFTEN NEGLECTED AND IS ONLY A TOPICAL SOLUTION. THE CONTINUING WASTE DISPOSAL OF THE OPERATING UNITS WILL BE DIRECTED TO THE LOCAL WATERSHED FROM WHICH THE NATURAL DRAINAGE PATTERN MOVES IT TO OTHER STREAMS AND RIVERS.

THERE IS NO MORE EFFICIENT TRANSPORTATION SYSTEM IN THE WORLD THAN THAT OF WATER DIRECTED BY GRAVITY. UNFORTUNATELY, THE INDUSTRIAL WASTE AND POLLUTANTS FROM OUR RAIN FOREST SITE CAN ENJOY A FREE RIDE THROUGH THE AMAZONIAN TRIBUTARY SYSTEM ALL THE WAY TO THE SEA. ALONG THE WAY THEY WILL POISON SPECIES BOTH KNOWN AND UNKNOWN WHICH THROUGH THE FOOD CHAIN MECHANISM WILL IN TIME DO THE SAME.

MAN IS LIKE ANY OTHER ANIMAL EXCEPT THAT HIS DEVELOPMENT AND TECHNOLOGY HAS FREED HIM FROM A FIXED PLACE IN THE FOOD CHAIN. HE DOES NOT DEPEND UPON ONE SPECIES FOR NOURISHMENT, BUT CAN CHOOSE FROM LAND OR SEA AT WILL. AND YET, IN TODAY'S GRAND FOOD CHAIN THE EFFECTS OF UNCHECKED POPULATION AND ITS WASTES HAVE SO INCREASED POLLUTION THAT SPECIES CONTAMINATION IS WIDESPREAD.

MAN CAN NO LONGER PICK HIS MENU WITHOUT THE RISK THAT WHAT HE CHOOSES MAY BE CONTAMINATED WITH MERCURY, LEAD OR OTHER CHEMICALS CAPABLE OF CAUSING ILLNESS OR DEATH. IN THIS REGARD HE IS AGAIN BACK TO BEING EQUAL WITH HIS FELLOW ANIMALS, ALTHOUGH HE ALONE CAN RUN POLLUTION TESTS AND READ THEIR RESULTS.

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THERE IS ANOTHER FORM OF STRUCTURAL INTERDEPENDENCE UPON WHICH OUR GEOMETRIC POPULATION

GROWTH WILL HAVE AN IMPACT WITH DIFFICULT CONSEQUENCES FOR OUR ACCUSTOMED WAY OF LIFE.

INEVITABLY, AS THE RATE OF CONSUMPTION OF OUR NATURAL RESOURCES CONTINUES TO CLIMB, THEIR PRICES WILL RISE. THIS IS THE TIME-PROVEN RESULT OF THE PRESSURE OF INCREASED DEMAND APPLIED AGAINST A FIXED OR DECLINING SUPPLY.

IF WE USE AS AN EXAMPLE A COMMODITY SUCH AS COPPER, WE CAN FIRST ANTICIPATE RECURRING INCREASES IN ITS WORLD PRICES AND THEN SHORTAGES, OR WIDE SCARCITY, AS SUPPLIES ARE NO LONGER AFFORDABLE OR ARE EXHAUSTED. DEMAND MAY DIMINISH IF OTHER MATERIALS OR TECHNOLOGIES CAN BE PUT TO THE SAME USES AS COPPER, BUT SUCH TRANSFORMATIONS ARE NEITHER QUICK NOR EASY. IN ANY EVENT, THE COPPER MARKET WILL UNDERGO A PERIOD OF PROLONGED AND VOLATILE IMBALANCE.

THE FINAL STAGE OF THIS PROCESS OCCURS WHEN THE COMMODITY'S SCARCITY INTENSIFIES AND COMMERCIAL SUPPLIES ARE NO LONGER AVAILABLE. AT EVERY LEVEL OF PRICE/SUPPLY CHANGE THE ELEMENT OF STRUCTURAL INTERDEPENDENCE IS FELT. COPPER, FOR INSTANCE, IS NOT ONLY USED IN ITS PURE FORM, BUT EXISTS AS A KEY COMPONENT IN NUMEROUS ALLOYS. OTHER COMMODITIES, NOTABLY PETROLEUM, BY SPECIFIC TREATMENT EXTEND THEIR USEFULNESS TO A WIDE VARIETY OF PRODUCTS AND PURPOSES.

IT HAS BEEN SEVENTY YEARS SINCE THE AMERICAN ECONOMY HAS EXPERIENCED A SEVERE SHORTAGE OR ABSENCE OF PRODUCTS TO WHICH IT WAS ACCUSTOMED. THEN, IN THE EARLY DAYS OF WWII, PRODUCTION RESTRICTIONS WERE ESTABLISHED FOR RUBBER, METALS, GASOLINE, SUGAR, ETC. TIRES, FOR INSTANCE, EXCEPT FOR ESSENTIAL USE DISAPPEARED FROM THE CONSUMER MARKET ALMOST IMMEDIATELY AND WERE FOLLOWED BY A HOST OF INDUSTRIAL AND CONSUMER PRODUCTS THAT USED RUBBER IN OTHER PRODUCTS OR WAYS.

AS IT DID THEN, THE FORCE OF THE ESCALATING CONFRONTATION BETWEEN DEMAND AND SUPPLY WILL CAUSE TREMORS AND DISLOCATIONS THAT WILL BE FELT THROUGHOUT THE INDUSTRIAL AND CONSUMER SECTORS OF OUR ECONOMY.

SCALE

SCALE IS THE GREAT MODIFIER OF LIFE AND ART. IT CAN BE USED TO MAKE THINGS LOOK EITHER SMALLER OR LARGER THAN THEY ARE, OR "JUST RIGHT". THE LATTER, HOWEVER, IS MORE A PART OF GOLDBLOCKS' WORLD THAN OURS. THE ARTIST WHO DESIGNED THE WMG POSTER CERTAINLY INTENDED TO EMPHASIZE THE SIZE OF THE TWO MONSTERS, AND HAS DONE SO BY HIS/HER USE OF SPACING AND PERSPECTIVE. THESE ARE TECHNIQUES WHICH AFFECT OUR VISION AND HOW OUR MINDS RECEIVE AND INTERPRET IMAGES.

IN THE DEVELOPING CONFRONTATION BETWEEN OUR PLANET'S POPULATION AND ITS RESOURCES, SCALE AND ITS ABILITY TO ADJUST OUR VISION ARE NOT AVAILABLE TO US. ITS SCALE IS SO VAST THAT WE CAN DETERMINE NEITHER ITS BOUNDARIES NOR ITS SHAPE.

IT HAS NOT EDGES, NOR A FRONT AND BACK; IT ENGULFS

US AND WE ARE PART OF IT. THIS IS ONE REASON WHY THERE IS LITTLE LIKELIHOOD OF ANY POLITICAL RECOGNITION OR SUPPORT.

POLITICIANS ARE CREATURES OF EXCLUSION. THEY START WITH THEIR OWN SELF-INTEREST EXPRESSED IN THEIR ELECTION AND RE-ELECTION AND EXCLUDE ALL OTHER INTERESTS. GRADUALLY, THEY INCLUDE THEIR CONSTITUENTS AND THEN THEIR PARTY, BUT THAT IS ABOUT THE EXTENT OF THEIR REACH. MONEY IS A CONSTANT IN ALL STAGES OF THEIR DEVELOPMENT AND SERVES AS THE NECESSARY LUBRICANT TO GAIN ACCESS AND FOCUS THEIR ATTENTION. EVERYTHING ELSE IS EXCLUDED.

BESIDES ITS SIZE, THE POPULATION/RESOURCE ISSUE HAS ANOTHER CHARACTERISTIC THAT RENDERS IT A DIFFICULT PUBLIC ISSUE TO SOLVE. IT IS BOTH QUIET AND CONSTANT. IF A NEW INTERSTATE HIGHWAY IS ROUTED CLOSE TO A HOUSE, ITS INHABITANTS WILL INITIALLY BE DISTURBED BY ITS NOISE, BUT THEN WILL BECOME ACCUSTOMED TO IT TO THE POINT WHERE THEY ACCEPT IT BY EITHER TUNING IT OUT OR IGNORING IT.

THIS IS EXACTLY THE SAME BEHAVIOR THAT POLITICIANS AND GOVERNMENTS HAVE EMPLOYED REGARDING THE POPULATION/RESOURCE CONFRONTATION. IT'S TOO BIG. IT'S EVERYWHERE. IT'S HUMAN NATURE. THERE'S PLENTY FOR EVERYBODY. IT'S GOD'S WILL. THERE'S NOTHING WE CAN DO. IT'S TOO EXPENSIVE. THERE ARE OTHER MORE URGENT ISSUES THAT NEED ATTENTION. IT'S A PRIVATE MATTER. IT'S A HOAX. COUNTRIES X, Y AND Z HAVE DECLINING POPULATION. THESE ARE ALL VERY COMMON FORMS OF DENIAL, AND THERE ARE MANY MORE. POLITICIANS AND GOVERNMENTS ARE HIGHLY SKILLED IN THE ART OF EVASION.

SCALE OF POLITICAL TRUTH

IN ADDITION TO THE MOST COMMON FORMS OF AVOIDANCE, THERE ARE FIVE VERY SIGNIFICANT FACTORS THAT OPERATE AGAINST ANY GLOBAL, COOPERATIVE POLITICAL EFFORT. PRIVATE GROUPS DEDICATED TO POPULATION CONTROL, AND THEIR COUNTERPARTS WITHIN THE UN, FUNCTION IN SOME AREAS, BUT TOP LEVEL MULTI-GOVERNMENTAL ACTIVITIES DIRECTED TO THE POPULATION/RESOURCE RELATIONSHIP DO NOT EXIST.

THE FIVE MOST IMPORTANT POLITICAL AND PSYCHOLOGICAL BARRIERS TO EFFECTIVE GLOBAL DISCUSSION AND ACTION ARE:

- 1) GENUINE 24/7 COOPERATION BETWEEN GOVERNMENTS IS DIFFICULT TO ACHIEVE. AWARENESS OF THE REALITY AND CONSEQUENCES OF THE POPULATION/RESOURCE ISSUE MUST START WITH THE GOVERNMENTS OF THE FIVE PERMANENT UN SECURITY COUNCIL MEMBERS (US, FRANCE, ENGLAND, RUSSIA, CHINA) AND GERMANY AND JAPAN.

ONCE REALITY AND COOPERATION ARE ESTABLISHED, THEY WILL ATTRACT THE SUPPORT OF THE THIRD AND DEVELOPING WORLD NATIONS WHERE SO MUCH OF THE WORLD'S POPULATION AND RESOURCES ARE LOCATED.

INITIAL AND SUBSEQUENT EFFORTS SHOULD EMPHASIZE THE PROBLEM IS ONE OF POPULATION AND RESOURCES — THE RELATIONSHIP OF EACH TO THE OTHER — AND NOT JUST SOME MODERN REPLAY OF THE OLD COLONIALISM, AS THE LATTER IS SURE TO SURFACE WITHIN THE TIME IT TAKES TO PLACE A CALL FROM NAIROBI TO CALCUTTA.

- 2) RELIGION: OUR WORLD IS HOME TO MANY DIFFERENT RELIGIONS WHICH, IN THEIR BEST MOMENTS, FIND IT DIFFICULT TO OVERCOME THEIR DIFFERENCES. THE MATTER OF POPULATION IS ONE THAT APPEARS FREQUENTLY IN HOLY SCRIPTS AND AROUSES STRONG REACTIONS.

RELIGIOUS LEADERS LIKE TO SPEND SEEMINGLY ENDLESS HOURS DISCUSSING HOW TO BRING THEIR FAITHS AND PRACTICES INTO CLOSER ALIGNMENT, BUT ACTUALLY ELIMINATING MAJOR DIFFERENCES SEEMS TO ESCAPE THEM.

WE CANNOT PINPOINT THE POPULATION/RESOURCE TIMETABLE OF EVENTS. WE CAN POINT OUT THAT IT IS ACCELERATING, BUT THE PLACE OR TIME OF ITS FIRST MAJOR SHOCK IS NOT KNOWN TO US. AND, NO MATTER HOW MANY ASSEMBLIES, CONVOCATIONS, RETREATS OR CONVENTIONS ARE PLANNED OR HELD, IT IS UNLIKELY THAT THEY WILL BE ABLE TO BRING ABOUT THE KIND OF URGENT THOUGHT AND ACTION NECESSARY TO EFFECTIVELY DEAL WITH THIS PROBLEM.

IN THE SACRED TEXTS OF ISLAM, JUDAISM AND CHRISTIANITY POPULATION IS A TOPIC OF SHARED AND HIGH IMPORTANCE WITH THE POWER TO ENFLAME ANY DISCUSSION.

- 3) RESULTS OF EFFORTS: ANY REALISTIC ATTEMPT TO DEAL WITH THE POPULATION/RESOURCE PROBLEM WOULD REQUIRE A VARIETY OF ACTIONS BY GOVERNMENTS, THE PRIVATE SECTOR AND THE PUBLIC. GIVEN THE NATURE OF THE SUBJECT AND THE INTERVENTION THAT WOULD BE NECESSARY, ACTUAL PROGRESS WOULD BE SLOW IN COMING AND DIFFICULT TO IDENTIFY UNLESS A TIPPING POINT WAS REACHED. SUCH AN EVENT WOULD CHANGE EVERYTHING, BUT WITHOUT IT INSTANT RESULTS THAT COULD BE PROMPTLY AND REGULARLY REPORTED WOULD NOT BE AVAILABLE.

LARGE, COMBINED EFFORTS BY MULTIPLE INSTITUTIONS OR NATIONS WILL MOST SURELY DECLINE INTO LISTLESS DISCUSSION GROUPS WITHOUT HAVING INFORMATION AS TO RESULTS ACHIEVED BY PRIOR COMMITMENTS.

BUREAUCRACY AT THE INTERNATIONAL LEVEL MOVES AT A SLOW PACE UNDER THE BEST OF CIRCUMSTANCES. WITHOUT FEEDBACK, IT WOULD PROBABLY COME TO A HALT.

- 4) NATURE OF CONSEQUENCES: JUST AS THE REPORTING OF RESULTS TENDS TO BE SLOW, THE CONSEQUENCES, UNLESS INTENSIFIED BY A TIPPING POINT, ARE SPREAD OVER WIDE AREAS AND HAVE SO FAR BEEN WEAK AND GRADUAL. THEY WILL BECOME STRONGER AND MORE FREQUENT, BUT PERHAPS NOT ENOUGH TO IGNITE PUBLIC

OPINION AND RAISE IT TO A LEVEL OF REAL CONCERN.

- 5) POLITICAL ATTENTION SPAN: WITH OR WITHOUT VIEWABLE PROGRESS THE POLITICAL ATTENTION SPAN IS BRIEF. IT MUST SURVIVE THE DISTRACTION OR COMPETITION OF FAST-BREAKING EVENTS WHICH MUST BE FACED AND ACTED UPON.

GOVERNMENTS, ESPECIALLY, ACT LIKE OVERBURDENED HOSPITALS. THERE IS ALWAYS A NEW SUPPLY OF PATIENTS (PROBLEMS) CLAMORING FOR ATTENTION. AS NOT ALL CAN BE TREATED, OTHERS WILL RECEIVE LESS CARE AND WILL WEAKEN, DIE AND BE REMOVED. POLITICAL FOCUS IS GENERALLY MORE NEEDED THAN IT IS AVAILABLE; AND THERE IS AN INVERSE RATIO AT WORK THAT ARGUES THAT THE GREATER THE CHALLENGE, THE LESS THE FOCUS.

WHAT CAN BE DONE?

THE DIFFICULTIES DESCRIBED ABOVE ARE REAL AND LIMIT OUR CHOICES OF ACTION AND STRATEGY. LEGISLATION IS ALWAYS AN EFFECTIVE OPTION IN GOVERNMENTAL MATTERS BECAUSE ITS SPECIFIC LANGUAGE FIXES RESPONSIBILITIES, COSTS, GOALS, PENALTIES, ETC., BUT IT SEEMS TO OFFER LITTLE CHANCE OF SUCCESS AT THIS POINT.

THE LEGISLATIVE TRACK IS A LONG AND SLOW ONE, AND THE PROSPECT OF EVEN COLLECTING SPONSORS FOR A BILL IN OUR CONGRESS IS A REMOTE ONE, AS WE FACE AN INFLAMMATORY TOPIC THAT WOULD BE OPPOSED BY OUR MEDIA, PRIVATE AND RELIGIOUS SECTORS.

OTHER COUNTRIES MAY LEGISLATE OR VIEW THE PROBLEM DIFFERENTLY; BUT THE PROCESS WOULD STILL CALL FOR A LONG AND SPECIFIC COMMITMENT TO FUND PROJECTS, PERSONNEL AND GOALS.

HERE OR ELSEWHERE, ATTEMPTING TO SECURE PUBLIC SUPPORT AND THEN TO CHANNEL IT THROUGH THE LEGISLATIVE PROCESS WOULD BE DOOMED TO FAILURE. THE UN, RIVEN AS IT IS BY ECONOMIC, ETHNIC AND RELIGIOUS DIVISIONS, WOULD ALSO BE A DEAD END.

THERE ARE NGOS (NON-GOVERNMENTAL ORGANIZATIONS) THAT HAVE BEEN SUCCESSFUL IN SOME AREAS IN MEETING EDUCATIONAL, HEALTH AND FOOD NEEDS. THESE OWE THEIR SUCCESS TO THE EFFORTS OF WELL-MEANING SPONSORS AND WORKERS, BUT ARE NICHE OPERATIONS AND WITHOUT THE REACH TO UNDERTAKE A GLOBAL PRESENCE.

TODAY NEGATIVES DOMINATE THE POPULATION/RESOURCE ISSUE. COMPLACENCY IS CERTAINLY ONE OF THE MOST DANGEROUS AND WIDESPREAD. IF WE HAVE NO MEANS, OR EVEN EXPECTATION, OF SUCCESS, WHAT IS THE ROLE OF THE CONCERNED AND WILLING CITIZEN IN OUR TWENTY-FIRST CENTURY CIVILIZATION?

IT MUST BE TO CREATE AND INCREASE AWARENESS, TO TRY TO OPEN MINDS, TO BROADEN THINKING, TO ENCOURAGE DISCUSSION SO THAT THIS ISSUE CAN BE APPROACHED WITH FAMILIARITY, RATHER THAN FEAR.

AT THIS TIME THIS FORM OF CONDITIONING IS

ABSOLUTELY VITAL. IT CAN CHANGE THE SCALE OF THE PROBLEM SO THAT THE GAP BETWEEN ITS CHALLENGES AND OUR RESPONSES IS REDUCED, AS THE POSTER ARTIST CAN CHANGE OUR PERCEPTION BY THE USE OF SCALE.

“...NATURAL RESOURCES ARE AMPLY PROVIDED TO US AS A KIND OF AN ORDAINED BIRTHRIGHT. NOTHING COULD BE FURTHER FROM THE TRUTH.”

ONE REASON THIS IS SUCH A DIFFICULT ISSUE TO MAKE UNDERSTOOD IS THAT, BARRING A NATURAL CATASTROPHE OR AN ECONOMIC DISLOCATION, MOST PEOPLE WILL THINK OF IT IN ABSTRACT TERMS. THEY HAVE BEEN CONDITIONED TO BELIEVE THAT THE PLANET CAN ABSORB ENDLESS POPULATION GROWTH AND THAT ITS NATURAL RESOURCES ARE AMPLY PROVIDED TO US AS A KIND OF AN ORDAINED BIRTHRIGHT. NOTHING COULD BE FURTHER FROM THE TRUTH.

MANKIND HAS, SINCE ITS EARLIEST ORIGINS, HAD TO DEAL WITH DUALITY IN MANY FORMS — IN HIS PLACE IN HIS WORLD AND IN NATURE; IN DISTINGUISHING GOOD FROM EVIL AND RIGHT FROM WRONG; IN DEFINING THE INTEREST OF THE SELF AS OPPOSED TO OTHERS; IN CREATING A SOCIETY BEING SHAPED BY INCREASING TECHNOLOGY AND DIMINISHING THOUGHT; BY PRINCIPLES OF FREEDOM BEING SACRIFICED TO THE URGENT PRACTICALITIES OF POLITICS AND THE WORRY THAT DRIVES THEM; BY THE CULT OF INDIVIDUALISM SUPERSIDING THE HONOR OF THE TRIBE; BY VIEWING LIFE AS A CONSTANT EXPRESSION OF CONFLICT BETWEEN GOD AND SATAN OVER MAN’S THOUGHT AND ACTIONS.

THIS DUALITY HAS ATTRACTED THE ATTENTION OF WRITERS SINCE THE TIMES OF THE EGYPTIAN AND GREEK CULTURES, AND HAS GIVEN RISE TO MANY LEGENDS AND MYTHS IN ALL PARTS OF OUR WORLD. PERHAPS THE MOST VIVID OF THESE ARE THE DEPICTIONS OF LIFE AMONG THE DEITIES IN THEIR POLYTHEISTIC PLAYGROUNDS.

WITH THE ENLIGHTENMENT AND OUR EMBRACE OF EXPANDING SCIENTIFIC KNOWLEDGE, THIS DUALITY WAS DEEMED IMPORTANT ENOUGH TO GIVE IT A CONTEMPORARY SETTING. DRACULA, DR. JEKYLL AND MR. HYDE, FRANKENSTEIN AND THE MONSTER, AND WITCHCRAFT/SATANISM ALL RESULTED FROM THIS EFFORT.

AND, OF COURSE, WOLFMAN, TOO. THEY ALL HAD PERSONAE IN WHICH GOOD AND EVIL ALTERNATED, AND THEY COULD TRANSFORM THEMSELVES OR BE TRANSFORMED BY EXTERNAL MECHANISMS SUCH AS BLOOD, DRUGS OR ELECTRICITY.

* * *

WE HAVE ALTERNATELY REFERRED TO OUR PRESENT POPULATION/RESOURCE CIRCUMSTANCE AS A FORCE AND AN ISSUE. IT IS BOTH — A SILENT, CONSTANT, INCREASING FORCE VAST AND POWERFUL ENOUGH TO OVERCOME OUR SOCIAL, POLITICAL AND ECONOMIC RESOURCES AND INSTITUTIONS. IF WE DO NOTHING, IF WE DO NOT RECOGNIZE IT, IF WE DO NOT ADMIT IT, IF WE DO NOT CONSIDER IT WORTHY OF EFFORTS TO ENGAGE IT, IT WILL REMAIN WHAT IT IS — AN IRRESISTIBLE

FORCE WITH THE POWER TO ALTER LIFE AS WE NOW KNOW IT FOR ALL SPECIES (MARINE, TERRESTRIAL AND AVIAN) ON OUR PLANET.

HOWEVER, IF WE TAKE THE CRITICAL STEP OF AWARENESS AND ENGAGE OURSELVES BY THOUGHT OR ACTION, THIS CIRCUMSTANCE BECOMES AN ISSUE AND IS OPENED UP TO ALL THE POSSIBILITIES FOR FAILURE OR SUCCESS THAT AT ANY GIVEN TIME OPERATE JUST BELOW THE SURFACE OF OUR SOCIAL, POLITICAL AND ECONOMIC SYSTEMS. UNFORTUNATELY, IN EARLY TWENTY-FIRST CENTURY AMERICA THOSE SYSTEMS BRING FORTH DECIDEDLY MORE NEGATIVE THAN POSITIVE RESULTS.

THE SIZE AND SILENCE OF THE POPULATION FORCE WILL ALLOW IT TO BE EXPLOITED IN SEVERAL WAYS. FIRST, POLITICIANS THE WORLD OVER WILL BE ABLE TO FIND HIDING PLACES WHERE THEY CAN DENY OR DELAY ANY REASONABLE RESPONSE. THERE WILL OCCUR A MASSIVE GAME OF INTERNATIONAL HIDE-AND-SEEK OF WHICH SMALLER VERSIONS WILL BE PLAYED IN INDIVIDUAL NATIONS. ACCOMPLISHMENT WILL BE DIFFICULT AND ITS PACE AGONIZINGLY SLOW.

THE SHAPE OF THE POPULATION FORCE IS NOT FLAT. IT IS DEPRESSED IN SOME PLACES AND ELEVATED IN OTHERS SO THAT A CLEAR SIGHT LINE IS NOT ALWAYS AVAILABLE. IT SENDS OUT SHOOTS THAT DEAD END AND OTHERS THAT FIND THEIR WAY BACK TO THE MAINSTREAM.

SUCH A TERRAIN IS IDEAL GROUND FOR THE SECOND FORM OF EXPLOITATION. IT WILL BECOME A HAVEN FOR THOSE IN THE CORPORATE AND POLITICAL SECTORS WHO SEE A CHANCE TO INCREASE THEIR WEALTH OR POWER, OR BOTH. IT WILL ATTRACT CON MEN AND CROOKS OF EVERY KIND, SIZE AND TECHNIQUE; “FORBES 500” CORPORATIONS; PUBLIC AND PRIVATE INSTITUTIONS; AND NEW NATIONAL AND INTERNATIONAL BUREAUCRACIES ATTRACTED BY THE UNMISTAKABLE SCENT OF FRESH FUNDING AND PROGRAMS.

EXPLOITATION’S THIRD FORM IS THAT OF POLITICAL IDEOLOGY. ANY EFFORT TO EXPLAIN OR TO CONTROL THE POPULATION FORCE WILL BE APPROPRIATED FOR THEIR OWN ENDS BY LOCAL AND INTERNATIONAL POLITICAL ENTITIES.

THIS IS A FORM OF IDEOLOGICAL HITCHHIKING IN WHICH THE POLITICIAN “RIDES” THE ISSUE FOR AS LONG AS IT IS EXPEDIENT. HE/SHE MAY USE IT FOR ARGUMENT, EITHER PRO OR CON, AND THEN ABANDON IT. IF CIRCUMSTANCES TURN AND AGAIN OFFER THE CHANCE FOR IDEOLOGICAL OPPORTUNITY, THE ENTERPRISING POLITICO CAN, WITH A FEW DEFT PHRASES, CLAMBER BACK AND TAKE ANOTHER “RIDE”.

THERE IS NO CONSTANCY AND LITTLE PRINCIPLE IN THESE ARGUMENTS. THEY ARE DESIGNED TO CONVERT THE ENERGY AND REACH OF THE POPULATION FORCE INTO A POLITICAL LEVER CAPABLE OF RAISING THE CHANCES FOR POLITICAL ADVANCEMENT OR REELECTION.

TO THE OBJECTIVE OBSERVER THESE MOTIVES ARE USUALLY EASY TO DETECT, BUT IN THE CONTEXT OF A GLOBAL EFFORT INVOLVING MIXED RELIGIOUS, RACIAL, POLITICAL, ECONOMIC, SOCIAL, AND ETHNIC ELEMENTS THEY COULD BE SKILLFULLY DISGUISED.

* * *

THERE IS ANOTHER FACTOR THAT MAKES THE POPULATION/RESOURCE ISSUE DIFFICULT TO ENGAGE. IN OUR RECENT TWO WORLDWIDE CONFLICTS WITH FASCISM AND COMMUNISM WE COULD EASILY SYMBOLIZE AND PERSONALIZE THEM BY USING IMAGES OF HITLER AND STALIN. SIMILARLY, WE OFTEN REFERRED TO THEM IN THE ABBREVIATED FORM OF THEIR NATIONAL CAPITALS, BERLIN AND MOSCOW.

FOR PUBLIC COMMUNICATION THIS IS A MARKED CONVENIENCE, AS IT ALLOWS FOR A VARIETY OF LABELS, AND VISUAL IMAGERY CAN BE EXTENDED FROM PHOTOS TO CARTOONS AND TO THE ADDED RANGE OF COMMENT THAT THEY PERMIT.

THINK BACK TO WWII AND THE ALMOST DAILY STREAM OF CARTOONS THAT FEATURED LEADERS FROM BOTH SIDES — CHURCHILL, FDR, HIROHITO, HITLER, STALIN, CHIANG KAI-SHEK AND THEIR STAFFS.

THE POPULATION/RESOURCE ISSUE WILL NEED SOME PICTORIAL SYMBOL THAT CAN BE READILY IDENTIFIED AND UNDERSTOOD IN ALL CULTURES. THIS IS LACKING NOW, BUT ONE WILL EMERGE AND ACHIEVE PUBLIC ACCEPTANCE. IT WILL HELP IMMENSELY IN CREATING AWARENESS.

THE CLOCKS

NOT ALL CLOCKS RUN AT THE SAME RATE. FOR INSTANCE, AT THE RECENT DECEMBER CONFERENCE ON GLOBAL CLIMATE IN DURBAN, S.A. PARTICIPANTS AGREED TO ATTEMPT TO PUT IN PLACE BY 2020 COMMITMENTS BETWEEN 190 NATIONS TO COOPERATE TO REDUCE GREENHOUSE GAS EMISSIONS. BUT — 2020 MEANS DIFFERENT THINGS FOR DIFFERENT PEOPLE:

THE WATER CLOCK: INHABITANTS OF THE LOW LYING PACIFIC ATOLL ISLANDS ALREADY PARTIALLY INUNDATED FIND SUCH A TIMETABLE USELESS, AS INDICATED BY THE COMMENT OF FIJI'S ENVIRONMENTAL MINISTER:

“WE HAVE CYCLONES NOW AT ANY TIME OF THE YEAR. WE HAVE FLASH FLOODS IN THE COASTAL AREAS. WATER IS BEING SALINATED. FOOD SECURITY IS GOING TO BE A PROBLEM. WE ARE DESPERATELY LOOKING AT HOW WE WILL DEAL WITH THE SITUATION.”²

THE NINE YEAR TIMETABLE AGREED TO BY THE DURBAN CONFERENCE IS A DEATH SENTENCE FOR PACIFIC ISLANDERS. BACK SLAPPING IN AFRICA IS BACK STABBING ON THE ATOLLS, SOME OF WHICH HAVE ALREADY EXPERIENCED FLOODING SERIOUS ENOUGH TO CAUSE THEM TO BEGIN THE RELOCATION OF THEIR PEOPLE AND PROPERTY.

THE POPULATION CLOCK: THERE ARE MANY WHO VIEW OUR GLOBAL POPULATION GROWTH AS A NATURAL AND BENIGN PROCESS BECAUSE IT HAS ALWAYS BEEN THAT WAY. BUT IN FACT IT HASN'T. WE HAVE MERELY FAILED IN OUR DUTY TO TAKE NOTE OF OUR SURROUNDINGS, AND OF WHAT HAS HAPPENED TO THEM AND TO US.

THERE ARE ANY NUMBER OF WAYS TO DO THIS. WE CAN COMPARE A 50 YEAR OLD MAP WITH A CURRENT ONE. WE CAN DRIVE ON ROADS OR WALK OUR STREETS AND COMPARE WHAT WE SEE NOW WITH WHAT WE SAW THEN. WE CAN PALPABLY SENSE

THE LOSS OF SPACE BETWEEN US AND OUR FELLOW CITIZENS IN THE PUBLIC SQUARE OR IN PUBLIC TRANSPORTATION VEHICLES. AND, IF WE NEED CONFIRMATION ON A LARGER SCALE, WE CAN GO ONLINE OR TO THE LIBRARY AND OBTAIN STATISTICS ON OUR POPULATION DENSITY OR THE AVAILABILITY OF OPEN LAND — NOW AND THEN.

OR, PERHAPS WE NEED GO NO FURTHER THAN THE GROWTH OF OUR POPULATION WHICH HAS APPROXIMATELY DOUBLED IN THE LAST HALF CENTURY. THESE POPULATION AND DEMOGRAPHIC CHANGES ARE ENORMOUS IN THEIR NUMBER AND IMPACT. AND THEY ARE JUST AS MUCH THE STUFF OF CHANGE AND HISTORY IN OUR LIVES AS TECHNOLOGY OR WEALTH OR RELIGION.

THE POPULATION CLOCK, LIKE THE WATER CLOCK, TICKS FASTER IN SOME PLACES THEN OTHERS. IN AFRICA AND INDIA IT RUNS FASTER THAN IN CANADA OR RUSSIA, BUT EVEN THE LATTER MUST KEEP THEIR EYES ON THE WORLD RATE OF BOTH POPULATION GROWTH AND RESOURCE DEPLETION.

FOLLOWING WWII A BODY OF POLITICAL THOUGHT EXPRESSED ITSELF IN THE PHRASE “ONE WORLD” AND GAINED ENOUGH SUPPORT AND STRENGTH TO PLAY A KEY ROLE IN LAUNCHING THE UN. IT'S EASY TO ASSUME NOW, BECAUSE IT HAS BEEN WITH US AS LONG AS IT HAS, THAT THE UN HAD NO OPPOSITION AT THE TIME OF ITS FOUNDING. THAT'S NOT TRUE; THERE WAS OPPOSITION, BUT IT COULD NOT GAIN TRACTION IN LIGHT OF THE MUCH BROADER PUBLIC APPROVAL.

“ONE WORLD” AS A POLITICAL POLICY HERE AND ELSEWHERE WAS MOVED TO THE BACK OF THE ROOM BY THE COLD WAR AND THE MANY OTHER WARS AND NEAR WARS OF THE LAST TWO GENERATIONS. BUT “ONE WORLD” THINKING IN REGARDS TO THE POPULATION/RESOURCE CONFRONTATION IS ALREADY, AND WILL CONTINUE TO BE, AN ABSOLUTE NECESSITY.

THE TEMPERATURE CLOCK: OUR INFORMATION ABOUT THE WORLD'S TEMPERATURES COMES TO US AS LOCAL MEASUREMENTS WHICH ARE THEN COMBINED TO CREATE NATIONAL, REGIONAL OR GLOBAL STATISTICS. FOR MOST PURPOSES IT IS NOT IMPORTANT TO KNOW THE 10:00AM READING IN MELBOURNE OR THE 4:00PM IN STOCKHOLM, BUT WE MANAGE TO BECOME AWARE OF PROLONGED EXTREMES OF HEAT OR COLD, DROUGHT OR FLOODING. OR DO WE? NOT REALLY AWARE ENOUGH TO ALERT US, TO MAKE US THINK; BUT JUST OCCASIONALLY ENOUGH FOR POLITE CONVERSATION.

LET'S SUPPOSE WE ATTEND A BUSINESS LUNCH MEETING OF ABOUT ONE HUNDRED PEOPLE IN A MEDIUM SIZE DINING ROOM WITH TEN TABLES EACH SEATING 10 PEOPLE. COCKTAILS ARE SERVED FOLLOWED BY 3 COURSES AND COFFEE. THERE IS NO AIR-CONDITIONING AND THE TEMPERATURE WHEN THE FIRST GUEST ARRIVED IS A COMFORTABLE 75°, ABOUT THE SAME AS THE OUTSIDE TEMPERATURE. SPEECHES TAKE A BIT LONGER THAN USUAL AND IT IS 3 HOURS LATER WHEN THE MEETING IS ADJOURNED, THE DOORS OPENED AND THE GUESTS LEAVE. WHAT IS THE ROOM TEMPERATURE AT THAT TIME? IF WE KNEW THE DIMENSIONS OF THE ROOM, THE MENU SERVED, PORTION SIZES, AND THE AGE/WEIGHT/HEIGHT/METABOLIC RATES OF THE GUESTS, WE COULD COMPUTE THE ANSWER.

AND ALTHOUGH WE DON'T KNOW WHAT THE TEMPERATURE WOULD BE, WE DO KNOW THAT IT WOULD BE

MORE THAN AT THE BEGINNING AND THAT AT SOME POINT SOME OF THE GUESTS WOULD HAVE NOTICED AND COMMENTED ON IT, AND PROBABLY WOULD HAVE ASKED WHAT WAS THE MATTER WITH THE AIR CONDITIONING.

ENLARGE THE SCALE OF THIS EXAMPLE TO GLOBAL SIZE AND CONDITIONS AND WE HAVE AN APT ILLUSTRATION OF OUR WORLD TEMPERATURE CLOCK AT WORK AND THE RESPONSE. A FEW PEOPLE WILL TAKE NOTE OF THE PROCESS OF CHANGE AND WILL WRITE OR SPEAK THEIR CONCERN, BUT FOR THE MOST PART, THE SPEECHES GO ON AND IT'S BUSINESS AS USUAL.

THE TEMPERATURE CLOCK IS REAL AND REPORTS REGULARLY AND ACCURATELY ON OUR PLANET'S TEMPERATURES. AND YET WE ARE ONLY BEGINNING TO ACCEPT ITS INFORMATION AND TO ACTIVATE A RESPONSE. AND EVEN NOW, AS WE FACE RECORD HIGH TEMPERATURES AROUND THE WORLD, THERE ARE VOICES THAT INSTRUCT US TO PAY NO HEED, TO KEEP DOING WHAT WE'VE DONE IN THE PAST SO THAT PROFITS WON'T BE DISRUPTED, REVENUES REDUCED AND COSTS OR REGULATIONS INCREASED.

THE ECONOMIC CLOCK: THIS IS A COMPLICATED AND TRICKY MECHANISM WHICH, BECAUSE IT IS POWERED BY OUR POLICIES AND ACTIONS, RUNS FORWARDS AND BACKWARDS IN FITS AND STARTS. IN ITS DEFENSE, IT CITES THE HIGHER LAW OF SUPPLY AND DEMAND AND APPLIES IT WITH EQUAL DEFERENCE TO OUR PLANET'S NATURAL RESOURCES, AN ODD-LOT STOCK TRANSACTION AND EVERYTHING IN BETWEEN.

THE USE OF THE TERM "POPULATION/RESOURCE" ISSUE, OR PROBLEM, IS INTENDED TO CONVEY GLOBAL SCALE AND SIGNIFICANCE, BUT LACKS THE SPECIFICITY THAT HELPS US RELATE IT TO OUR DAILY LIVES. FOR EXAMPLE, LET'S USE THE FOOD/PETROLEUM CONNECTION WHICH WE HAVE WRITTEN ABOUT BEFORE, MOST RECENTLY IN OUR PREVIOUS ISSUE, #33, OF LAST OCTOBER.

FOOD HAS PROVIDED SUSTENANCE FOR THE HUMAN RACE AND OTHER LIFE FORMS SINCE THEIR APPEARANCE ON EARTH, AND IT PROVIDED MANKIND WITH THE HUMAN ENERGY NEEDED TO PURSUE OUR DEVELOPMENT AND DESTINY.

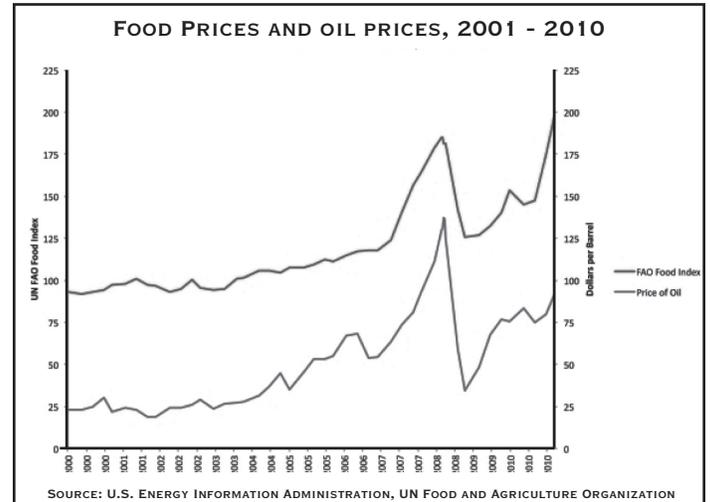
IT GUIDED THE MOVEMENTS OF PRE-HISTORIC NOMADIC TRIBES IN AFRICA AND ELSEWHERE, AND WAS EQUALLY AVAILABLE TO ALL WHO WERE WILLING TO SEARCH, AND SOMETIMES FIGHT, FOR IT.

WITH THE CHANGE FROM NOMADIC LIFE TO THE WAYS OF SETTLED AGRICULTURE AND COMMERCIAL LIVING AND STEADILY INCREASING POPULATION, FOOD BECAME A KEY ELEMENT IN THE ECONOMIC WEB THAT BEGAN TO TIE PEOPLE, SERVICES AND PRODUCTS TOGETHER.

IN THE MOST PRIMITIVE COMMUNITIES, EVEN BEFORE MONEY APPEARED, WHEN BARTER WAS THE DOMINANT MEANS OF EXCHANGE, THE LAW OF SUPPLY AND DEMAND, AS YET UNNAMED, WAS AT WORK.

FAST FORWARD TO THE PRESENT WHEN SUPPLY/DEMAND IS EVERYWHERE, AT ALL TIMES. IT IS TRULY UBIQUITOUS, AS IS OUR NEED FOR FOOD AND OUR TIME'S MOST WIDELY USED SOURCE OF ENERGY — PETROLEUM. THESE TWO FORMS OF ENERGY ARE SO CLOSELY TIED TO EACH OTHER THAT THEY NOT ONLY DOMINATE OUR ECONOMIC MARKETS AND ACTIVITIES, THEY ALSO SERVE AS AN ICON FOR THE LARGER POPULATION/

RESOURCE ISSUE. THE CHART BELOW FROM RICHARD HEINBERG'S MUSELETTER IS CLEAR EVIDENCE OF HOW THIS RELATIONSHIP OPERATES IN TANDEM.³



FOOD IS GROWN EVERYWHERE — IN FLAT, EASY TO REACH IOWA FIELDS, ON MOUNTAINSIDES AND IN LAKES AND OCEANS. AND ALL THIS FOOD MUST BE TRANSPORTED TO THE DENSELY POPULATED CITIES WHERE MOST OF THE WORLD'S POPULATION LIVES. WHETHER TRANSPORTED BY TRUCK, RAIL, AIR OR SHIP, THIS TRANSFER REQUIRES THE USE OF AN IMMENSE AMOUNT OF PETROLEUM.

AGRICULTURE REQUIRES ADDITIONAL USES OF PETROLEUM IN FERTILIZERS AND PESTICIDES AND DIESEL, GAS AND GASOLINE TO RUN ITS FARM VEHICLES, EQUIPMENT AND MACHINERY. AGRICULTURE IS A PETROLEUM INTENSIVE INDUSTRY.

RISING POPULATION CARRIES WITH IT AN INCREASED DEMAND FOR FOOD WHICH EXERTS AN UPWARD PRESSURE ON PRICES. AT THE SAME TIME, FOOD PRODUCTION IS DECLINING BECAUSE OF H₂O TABLE DETERIORATION, SOIL EXHAUSTION AND THE LOSS OF ARABLE LAND CAUSED BY RISING POPULATION'S NEED FOR HOMES, SCHOOLS, HIGHWAYS, OFFICE BUILDINGS AND THEIR SATELLITE SERVICES.

ON THE SUPPLY SIDE, PETROLEUM, TOO, IS NOW FACING DIFFICULTIES THAT HAVE ROILED ITS MARKET. AS NEW DISCOVERIES BECOME MORE DIFFICULT TO FIND AND MORE EXPENSIVE TO BRING INTO PRODUCTION, OIL'S PRICE WILL CONTINUE TO RISE.

IF WE BELIEVE IN THE LAW OF SUPPLY AND DEMAND, ON WHICH MOST OF OUR GLOBAL COMMERCE IS BASED, AND THE CLOSELY PARALLEL RELATIONSHIP THAT HAS DEVELOPED BETWEEN FOOD AND OIL, THEN THERE ARE DIFFICULT TIMES AHEAD FOR THE WORLD'S CONSUMERS. HEINBERG STATES:

“NO FOOD SYSTEM TIED TO THE EARTH'S FINITE SOIL AND WATER RESOURCES CAN SUPPORT AN EVER-EXPANDING AND EVER MORE RESOURCE DEMANDING POPULATION.”⁴

THERE ARE CLEAR ECHOES HERE OF WHAT THOMAS MALTHUS WROTE TWO CENTURIES AGO. THAT WAS A TIME OF RELATIVELY LOW WORLD POPULATION, BUT HIGH GROWTH IN

PARTS OF MALTHUS' ENGLAND.

MALTHUS' THEORY HAS BEEN SPARED ITS ULTIMATE CONCLUSION BY SHIFTS IN THE SOCIAL, ECONOMIC AND TECHNOLOGICAL CIRCUMSTANCES OF OUR GLOBAL ECONOMY, LEADING MANY PEOPLE TO ERRONEOUSLY FAULT THE THEORY RATHER THAN THE CIRCUMSTANCES THAT HAVE INTERRUPTED IT.

FORCES OF CHANGE ARE GATHERING AGAIN, AND THEY ARE FAR MORE IMPORTANT THAN THE ARGUMENT OF WHETHER THOMAS MALTHUS WAS RIGHT TWO CENTURIES AGO. THEY WILL DETERMINE HOW WE WILL RESPOND TO THE DRAMA OF WORLD MARKETS AS THEY, AND WE, OBSERVE THE POPULATION/RESOURCE CONFRONTATION.

THE WORLD CONFERENCE ON CLIMATE CHANGE HELD IN DURBAN, S.A. WAS, LIKE ITS PREDECESSORS IN RIO DE JANEIRO AND KYOTO, UNABLE TO ACHIEVE A BREAKTHROUGH WORLD AGREEMENT AS TO WHAT MUST BE DONE AND WHO WILL DO IT TO REDUCE GREENHOUSE GAS EMISSIONS. THESE MEETINGS PROVIDE A CHANCE FOR VALUABLE DISCUSSION AND WELL-ORGANIZED PRESENTATIONS OF SCIENTIFIC OPINION, BUT THEY CANNOT ESCAPE THE MAJOR DILEMMA POSED BY THE WORLD'S TWO LARGEST ECONOMIES' AND POLLUTERS' LACK OF INTEREST. AS BEFORE, AT DURBAN THEIR IMMEDIATE, DOMESTIC ECONOMIC CONSIDERATIONS TRIUMPHED OVER LONG TERM CONCERNS ABOUT THE EFFECT OF CLIMATE CHANGE ON OUR CIVILIZATION.

* * *

EARLIER WE SAID THAT THE ECONOMIC CLOCK WAS POWERED BY OUR POLICIES AND ACTIONS. NOWHERE IS HUMAN NATURE MORE THOROUGHLY REVEALED IN ALL ITS WAYS, FORMS AND MOTIVES THAN IN ECONOMIC ACTIVITY — THE GOOD, THE BAD, THE UGLY, THE GENEROUS, THE CARING, THE HURTFUL AND THE HOPEFUL. THEY'RE ALL THERE ON 24 HOUR CALL; EVERY DAY AND EVERYWHERE.

WE ALSO POINTED OUT THE DANGERS IN OUR GOVERNMENT'S PRESENT ATTITUDE TO NOT TAKE ACTION ON THE POPULATION/RESOURCE ISSUE. WE'D LIKE TO THINK THAT, WITH REGARD TO AN ISSUE AS IMPORTANT AS THIS, OUR AND OTHER GOVERNMENTS MIGHT RISE TO THE OCCASION AND ACTUALLY ATTEMPT TO LEGISLATE, TO SEE THE LARGER NATIONAL (AND INTERNATIONAL) INTEREST AND TO GOVERN.

ANY PRACTICAL POLITICAL PROCESS WOULD BE HINDERED NOT ONLY BY POLITICAL ARGUMENT AS TO FACT AND THEORY, BUT ALSO BY THE KIDNAPPING OF THE SUBJECT AND HOLDING IT RANSOM FOR POLITICAL ADVANTAGE — A BRIDGE OR HIGHWAY HERE, A REDISTRICTING VOTE SOMEWHERE ELSE, A FEDERAL OFFICE OR CONTRACT, A TAX BREAK, A DIPLOMATIC POST, WHATEVER. THEY'RE CONSTANTLY IN PLAY, IF NOT IN SIGHT; AND THAT'S THE WAY IT IS.

IMAGINE, THEN, IF YOU CAN, THE VARIETY OF OPPORTUNITY FOR SELF-DEALING THAT WILL BE OFFERED TO OUR ECONOMIC COMMUNITY — BANKS, BROKERAGE FIRMS, HEDGE FUNDS, VENTURE CAPITAL PARTNERSHIPS AS WELL AS ANY ENTERPRISING MEMBER OF THE CORPORATE SECTOR.

WE ARE DEALING WITH A LONG TERM TIME FRAME, INTERNATIONAL BACKGROUND AND ARGUMENT FLAVORED WITH

THE POSSIBILITY OF PUBLIC BENEFIT. THERE WILL BE CONTRACTS, RESEARCH PROJECTS, TREATIES, TECHNOLOGICAL EVALUATIONS, CONSULTANCIES, NON-GOVERNMENT ORGANIZATIONS (NGOS), JOINT VENTURES, THE CORRELATION OF GLOBAL/REGIONAL/NATIONAL PLANNING EFFORTS AND THE CREATION OF A LARGE NUMBER OF FINANCIAL ENTITIES WHOSE ONLY FUNCTION IS TO RECEIVE AND/OR DISBURSE FUNDS, LEGAL OR ILLEGAL, THAT CAN MOVE WITH ELECTRONIC SPEED FROM ONE REPOSITORY TO ANOTHER, OFTEN WITHOUT LEAVING A TRAIL.

“ . . .THE CORRUPTION THAT RESULTS . . . IS ALIVE AND WELL, AND HISTORICALLY SANCTIONED, IN MANY PARTS OF THE WORLD.”

BECAUSE THE POPULATION/RESOURCE ISSUE IS A GLOBAL ONE, THOSE WHO WISH TO DISHONESTLY PROFIT FROM IT WILL BE ABLE TO TAKE COVER IN THE HIDING PLACES THAT ABOUND IN THE AGENCIES, BUREAUS AND DEPARTMENTS OF FOREIGN GOVERNMENTS MANY OF WHICH HAVE NO REQUIREMENT OF ACCOUNTABILITY. NOT ONLY IS THERE NO ACCOUNTABILITY, BUT MANY GOVERNMENT AREAS ARE OPERATED AS PERSONAL FIEFDOMS WITH NO SEPARATION OF PRIVATE AND PUBLIC INTERESTS. WHILE THE CORRUPTION THAT RESULTS IS UNACCEPTABLE TO OUR WESTERN PERCEPTION, IT IS ALIVE AND WELL, AND HISTORICALLY SANCTIONED, IN MANY PARTS OF THE WORLD.

CHANGE BRINGS OPPORTUNITY, BUT ALSO INSTABILITY. THE POSTWAR DEMISE OF EUROPEAN COLONIALISM IN AFRICA WAS SUPPOSED TO BRING A NEW AGE OF PEACE AND SELF-DETERMINISM AS ONE NATION AFTER ANOTHER SLIPPED THEIR TIES TO EUROPE. INSTEAD, THE PROXY WARS FOUGHT BY RUSSIA AND THE US AS PART OF THE “COLD WAR” RESULTED IN GOVERNMENTS THAT WERE MOSTLY ARMED CAMPS PROPPED UP BY US/RUSSIAN ARMS AND MONEY.

TODAY NIGERIA IS HOME TO A “COTTAGE INDUSTRY” OF FINANCIAL FRAUD THAT TARGETS UNSUSPECTING DUPES AROUND THE WORLD WITH A SMALL, BUT RELIABLE, NUMBER OF SCAMS, “CONS”, SCHEMES, ETC. THEY ARE MADE POSSIBLE BY COMPUTER TECHNOLOGY WHICH ENABLES THE SCAM ARTIST TO CONTACT HIS PREY WITHOUT EVER MEETING AND TO OBTAIN THE PERSONAL FINANCIAL INFORMATION NECESSARY TO EXTRACT AND RECEIVE PAYMENT. HUMAN NATURE BEING WHAT IT IS, THERE IS NO SHORTAGE OF GULLS.

AND, LASTLY, GIVEN THE NEED FOR GLOBAL COOPERATION IN DEALING WITH THE POPULATION/RESOURCE PROBLEM, IT IS INEVITABLE THAT WALL STREET WILL COME UP WITH NEW INSTRUMENTS AND PRODUCTS RELATED TO IT. CAVEAT EMPTOR.

BACK TO THE BEGINNING

WE MUST KEEP THE TITANIC IMAGE OF WOLFMAN AND GODZILLA IN MIND. THE CONFRONTATION BETWEEN THE FORCES OF GEOMETRIC POPULATION GROWTH AND OUR PLANET'S FINITE AND DIMINISHING NATURAL RESOURCES WILL PRODUCE

ECONOMIC AND SOCIAL DISLOCATION ON A SCALE THAT WE HAVE NOT EXPERIENCED BEFORE.

OUR WORLD'S POLITICAL "LEADERS" WILL NOT BE ABLE TO RESPOND EFFECTIVELY TO THIS THREAT EITHER OVER A LONG OR SHORT TIME PERIOD. THEY SIMPLY LACK THE VISION, THE FREEDOM AND THE COURAGE REQUIRED TO SPEAK OUT AND TO INSIST ON BEING HEARD.

THE GLOBAL MEDIA'S TECHNOLOGICAL NETWORK IS A COMMUNICATIONS MARVEL. IT COULD SERVE A PROACTIVE PURPOSE IN ATTEMPTING TO INFORM THE PUBLIC ON THIS ISSUE AND THE THREAT THAT WE FACE FROM IT. BUT OUR MEDIA WILL NOT DO THIS BECAUSE TAKING SUCH A ROLE WOULD DISTURB ITS COZY RELATIONSHIP WITH ITS CORPORATE AND POLITICAL SPONSORS.

THE KIND OF RESISTANCE TO REALITY OFFERED BY GOVERNMENTS, MEDIA AND AN UNINFORMED PUBLIC CONSTITUTES ANOTHER FORM OF "IRRESTIBLE FORCE". IT IS STRONG AND DETERMINED.

BECAUSE OF THIS, ANY FRONTAL ASSAULT UPON IT BY THE RELATIVELY SMALL NUMBER OF PEOPLE AWARE OF THESE NUMBERS AND THEIR SIGNIFICANCE IS BOUND TO FAIL. THEY CANNOT AT THIS TIME BRING ABOUT DEBATE OR LEGISLATION OR COOPERATION. THE BEST THEY CAN ACHIEVE IS TO DEVELOP AWARENESS OF THE WOLFMAN/GODZILLA MOMENT IN WHICH WE LIVE.

AWARENESS DOES NOT REQUIRE AN ARGUMENT WITH A JUDGMENT AS TO RIGHT OR WRONG. IT DOES NOT REQUIRE ORGANIZING GROUP OR INDIVIDUAL REMEDIAL ACTION; NOR THE HOLDING OF POLITICAL HOSTAGES. IT IS AN INNER MECHANISM. IT ONLY REQUIRES BEING KNOWLEDGEABLE, BEING WILLING TO INTRODUCE AND DISCUSS, TO OPEN EYES AND MINDS WITHOUT HAVING TO TAKE CAPTIVES. AND THAT IS THE PURPOSE OF THIS CHAPTER.

CAPITALISM IN A TIME OF SCARCITY

AS INTRODUCTION TO THIS SECTION WE MUST REPEAT OUR DEFINITION OF ECONOMICS FROM THE PREVIOUS CHAPTER. "IN CAPSULE FORM, ECONOMICS IS CONCERNED WITH THE MEASUREMENT, DEVELOPMENT, TRANSFER AND EXPANSION OF WEALTH FROM BOTH PUBLIC AND PRIVATE SOURCES, AND THE EFFECT OF THESE ACTIVITIES ON POPULATIONS AND GOVERNMENTS."⁵

IN THE UNUSUAL CIRCUMSTANCES OF OUR NATION'S BIRTH AND GROWTH ITS UNIQUE SENSE OF POLITICAL AND INTELLECTUAL ENERGY WAS EXTENDED TO ITS ECONOMIC DEVELOPMENT IN THE FORM OF CAPITALISM WHICH BECAME OUR UNOFFICIAL "OFFICIAL" ECONOMIC DOCTRINE. FROM ITS EARLIEST MOMENTS IT FUNCTIONED SMOOTHLY IN AN AURA OF ABUNDANCE AND GROWTH. ITS MOST SERIOUS CHALLENGE OCCURRED ONLY RECENTLY IN THE DECADE OF THE GREAT DEPRESSION THAT FOLLOWED THE STOCK MARKET CRASH OF 1929 AND ENDED WITH THE ATTACK ON PEARL HARBOR IN 1941.

OUR CAPITALISM ENJOYED TWO EXTRAORDINARY ADVANTAGES IN THAT IT HAD AT ITS DISPOSAL A NEWLY FREE

AND STRONG POPULATION, A WHOLE CONTINENT FOR ITS LABORATORY, A BENIGN AND TEMPERATE CLIMATE AND A LAND OF UNLIMITED NATURAL RESOURCES SUITABLE FOR MINING, AGRICULTURE, RAISING LIVESTOCK, RIVER COMMERCE AND MORE.

ITS SECOND ADVANTAGE WAS THE SYMBIOTIC RELATIONSHIP IN TIME, ENERGY AND THOUGHT BETWEEN OUR ECONOMIC AND POLITICAL SYSTEMS THAT FIRST APPEARED IN THE DECLARATION OF INDEPENDENCE AND HAS CONTINUED EVER SINCE.

* * *

IN THE EARLY NINETEENTH CENTURY, BEFORE GAS OR ELECTRICITY, WHALE OIL WAS THE MOST WIDELY USED FORM OF HOUSEHOLD ILLUMINATION, AND MOST OF THE YOUNG NATION'S SPERM WHALE OIL WAS PROVIDED BY SHIPS THAT VOYAGED OUT OF A HANDFUL OF EASTERN SEABOARD TOWNS — SAG HARBOR, MYSTIC, NEW BEDFORD, NEWPORT, EDGARTOWN AND NANTUCKET.

THE WHALING SHIP, ITSELF, WAS A LABORATORY FOR CAPITALIST ENTERPRISE. IT WAS OWNED BY ONE OR MORE PEOPLE WHO DIVIDED THE OWNER'S SHARE OF PROFITS AMONG THEMSELVES AND ANY FRIENDS OR INVESTORS THEY MIGHT HAVE INCLUDED. THE REMAINING SHARES WERE ALLOCATED BY STRICTLY OBSERVED CUSTOM TO CREW MEMBERS FROM CABIN BOY TO CAPTAIN. LOCAL BANKS SOMETIMES PARTICIPATED IN THE FUNDING OF WHALING VOYAGES VIA PERSONAL AND/OR COMMERCIAL RELATIONS WITH OWNERS.

THE INDUSTRY PROVIDED OPPORTUNITY FOR CREW ADVANCEMENT WHEREBY OVER TIME A CABIN BOY OR NEW SEAMAN COULD RISE TO BECOME A CAPTAIN AND THEN PART OF AN OWNER'S GROUP.

THERE WERE THREE PREDICTABLE RESULTS FOR EVERY WHALING VOYAGE. ON THE PLUS SIDE, THE SHIP COULD MAKE SUBSTANTIAL PROFITS BY RETURNING WITH ITS HOLDS FULL. ON THE NEGATIVE SIDE IT COULD RETURN, FOR ONE REASON OR ANOTHER, WITH A MEAGER CATCH INSUFFICIENT TO COMPENSATE EITHER OWNERS OR CREWS FOR THEIR MANY MONTHS OF EFFORT; OR IT MIGHT BE LOST AT SEA WITH THE RESULT THAT OWNERS WOULD LOSE THEIR CAPITAL AND THE CREW THEIR LIVES UNLESS THEY WERE FORTUNATE ENOUGH TO BE RESCUED. IN ANY EVENT, THERE WAS NO GAIN AND NO RETURN. THE WHALING SHIP WAS AN UNUSUALLY ACCURATE AND CLEAR MODEL OF CAPITALISM IN MICROCOSM.

IN ADDITION TO ITS PURITY THE WHALER MODEL POSSESSED ANOTHER DISTINCTIVE FEATURE IN THAT ITS RETURN ON INVESTMENT WAS FOREVER LIMITED. REGARDLESS OF THE TIME AND DISTANCE OF ITS VOYAGES, IT COULD ONLY BRING HOME AS MUCH SPERM OIL AS ITS STORAGE HOLDS COULD CONTAIN.

IT COULD NOT ADD A PRODUCTION LINE OR ADDITIONAL LABOR, OPEN A BRANCH OFFICE OR INTRODUCE A NEW PRODUCT. IT WAS PRESCRIBED TO OPERATE WITHIN THE PARAMETERS OF ITS STORAGE CAPACITY.

THIS LIMITATION RAN COUNTER TO AMERICA'S STRONGLY EXPANSIONIST ECONOMIC CULTURE WHICH HAS PERSISTED SINCE ITS FOUNDING TO THE PRESENT. THERE WERE, OF COURSE, INTERRUPTIONS IN THE FORM OF WARS PANICS, RECESSIONS AND THE GD, BUT EVEN THE LATTER'S TEN YEARS PROVED TEMPORARY AND WAS QUICKLY CURED BY RECORD WARTIME EMPLOYMENT AND PRODUCTION.

AMERICANS HAVE BELIEVED, AND CONTINUE TO BELIEVE, BECAUSE THEY HAVE BEEN CONDITIONED TO DO SO BY THEIR CORPORATE, POLITICAL AND MEDIA LEADERS, THAT CONTINUING, STRONG ECONOMIC GROWTH IS NOT ONLY POSSIBLE, BUT ALSO SOMETHING TO WHICH OUR COUNTRY AND ITS ECONOMY ARE ENTITLED. THIS BELIEF, WITHOUT BEING ARTICULATED, HAS SUPPORTED THE THEORY OF AMERICAN EXCEPTIONALISM AND HAS BECOME PART OF THE WAY WE NOW IDENTIFY OURSELVES.

THE FIRST HALF OF THE TWENTIETH CENTURY BROUGHT MANY SIGNIFICANT CHANGES TO THE AMERICAN ECONOMY. ONE SUCH MOMENT OCCURRED BETWEEN THE END OF WWI AND THE ONSET OF THE GD. THE THEN NEW MEDIUM OF COMMERCIAL RADIO GAINED PUBLIC ACCEPTANCE, AND NEW TECHNIQUES IN COLOR PRINTING OF WEEKLY MAGAZINES AND THEIR DISTRIBUTION, ALONG WITH OUR TRADITIONAL NEWSPAPER INDUSTRY, LAID THE FOUNDATION FOR WHAT WE NOW CALL OUR "MASS MEDIA".

THIS DEVELOPMENT WAS NOT ONE OF JUST INFORMATIONAL AND ENTERTAINMENT CONVENIENCE. RATHER, IT KICK-STARTED THE ECONOMY BY ADDING TO IT THE ELEMENT OF DEDICATED CONSUMERISM IN WHICH MUCH OF OUR MASS PURCHASING SERVES WANT MORE THAN NEED.

TODAY THIS SHIFT, ACCELERATED EVEN MORE BY TV AND COMPUTERS, HAS BECOME A CULTURAL AS WELL AS AN ECONOMIC PHENOMENON AS WE VIEW VARIOUS FORMS OF EXTREME BEHAVIOR THAT ATTEND STORE SALES.

"THIS PROCESS WILL WRITE ITS OWN ENDING WHICH WILL PROBABLY REQUIRE A WRENCHING CHANGE IN OUR HABITS."

OUR RAMPANT CONSUMERISM HAS BROUGHT WITH IT EXCESSIVE DEBT AND WASTE DISPOSAL ISSUES THAT THREATEN THE ENVIRONMENT. ONE CHEAP, PLASTIC PRODUCT AFTER ANOTHER APPEARS AND THEN IS DISCARDED IN OUR LAKES, LANDFILLS, PARKS, RIVERS AND STREETS. OUR DOLLARS QUICKLY REPLACE THEM. THIS PROCESS WILL WRITE ITS OWN ENDING WHICH WILL PROBABLY REQUIRE A WRENCHING CHANGE IN OUR HABITS.

* * *

WHERE ARE WE NOW? WHAT ORDER CAN WE DRAW FROM THE MASSIVE ECONOMIC FORCES NOW PRESENT AND VISIBLE IN OUR WORLD? WE KNOW OUR PRESENT POPULATION AND CAN PROJECT ITS CONTINUING RAPID GROWTH. WE KNOW FROM OUR CURRENT NATURAL RESOURCE NEEDS AND LEVELS THAT MANY ARE BEING DEPLETED FAR MORE QUICKLY THAN

THEY CAN BE REPLENISHED.

SOME OF THESE RESOURCES ARE NECESSARY FOR HUMAN LIFE, NOT JUST OUR ECONOMY. THEY INCLUDE WATER, TOPSOIL, FORESTS, OTHER SPECIES, WETLANDS, FUELS AND OTHERS. AND IT IS EVIDENT THAT AT SOME POINT, UNLESS WE CHANGE THE NUMBERS, OUR PLANET'S DIMINISHING RESOURCE BASE WILL NO LONGER BE ABLE TO SUSTAIN ITS GEOMETRIC POPULATION GROWTH.

THE NUMBERS, THE CRITICAL NUMBERS, ARE THERE FOR ALL TO SEE, BUT MOST AMERICANS PASS THEM BY. THEY TEND NOT TO HEAR OR TO LISTEN; THEY READ PAST OR THROUGH THEM. FOR TODAY'S AMERICA, AN URGENT, PLANET THREATENING CONFRONTATION IS NOT VIEWED AS REALITY. IT HAS BECOME AN ABSTRACTION.

OUR ECONOMY, LIKE ALL OTHERS, IS AN INTERESTED OBSERVER AND REFLECTOR OF THE POPULATION/RESOURCE ISSUE AND THE MANY ELEMENTS WHICH COMPOSE IT. IN TIME, AS NUMBERS AND URGENCY INCREASE, ITS INTEREST WILL BECOME MORE KEEN AND ITS REFLECTIONS MORE INTENSE AND, PROBABLY, FREQUENT.

IN AMERICA, PERHAPS MORE THAN ANY OTHER COUNTRY IN OUR WORLD, OUR ECONOMY IS IMPACTED BY MORE THAN JUST THE RAW ARITHMETIC OF THIS ISSUE. THESE IMPACTS CAN BE SOCIAL, PSYCHOLOGICAL, CULTURAL, RELIGIOUS, ETHNIC, ETC. THEY COME IN A VARIETY OF SIZES, SHAPES AND COLORS. GOVERNMENTS AND PEOPLE THE WORLD OVER TEND TO IGNORE OR DISMISS THEM AS BEYOND THE RANGE OF ANY VALID ECONOMIC FOCUS. THEY COULD NOT BE MORE WRONG.

OUR ECONOMY REFLECTS TWO SUCH IMPACTS. THE FIRST IS THE RAMPANT CONSUMERISM FOSTERED BY THE PRIVATE SECTOR, PROMOTED BY OUR MEDIA AND EMBRACED BY AMERICANS AT EVERY LEVEL OF OUR ECONOMIC LADDER. ON THE SURFACE, IT IS A WAY OF PRODUCING AND SELLING MORE GOODS. LESS OBVIOUSLY, IT SERVES TO COMPOUND POPULATION'S GROWTH NUMBERS. MORE PEOPLE PRODUCE MORE SALES, BUT MORE PEOPLE BUYING MORE PER PERSON PRODUCE FAR GREATER RESULTS.

"... IT HAS BECOME ENSHRINED AS A NATIONAL GOAL AND VALUE."

THE SECOND PSYCHOLOGICAL FACTOR IS THE MOST INSIDIOUS AND FIRMLY ESTABLISHED. IT IS THE MYTH OF ETERNAL GROWTH THAT INHABITS OUR POLITICS, OUR LOCAL, STATE AND FEDERAL GOVERNMENTS, OUR COMMERCIAL AND FINANCIAL COMMUNITY, OUR MEDIA AND OUR EDUCATIONAL SYSTEM. IT IS PERVASIVE AND ENJOYS SUCH WIDE ACCEPTANCE AS TRUTH THAT IT HAS BECOME ENSHRINED AS A NATIONAL GOAL AND VALUE.

LOGIC TELLS US OTHERWISE, BUT IN TWENTY-FIRST CENTURY AMERICA LOGIC IS IN SHORT SUPPLY. WE LIVE IN A FINITE WORLD. THERE IS JUST SO MUCH LAND, WATER, COPPER, PETROLEUM, ETC. AND WE CANNOT MAKE MORE. WE MAY TWEAK AROUND THE EDGES A BIT BUT WE CANNOT ORDER UP A NEW CONTINENT.

THERE ARE LIMITS AND, ALTHOUGH WE MAY NOT NOW KNOW EXACTLY WHAT THEY ARE, WE ARE INFORMED BY SCIENCE AND HISTORY THAT OUR RICH VARIETY OF NATURAL RESOURCES

WILL NOT LAST FOREVER, THAT EXCESSIVE CONSUMPTION WILL LEAD TO SCARCITY, DRAMATICALLY HIGHER PRICES AND THEN EXHAUSTION.

AND THERE IS THE LAW OF LIMITS WHICH STATES THAT FINITE SPACES OR RESOURCES LIMIT THE AMOUNTS THAT CAN BE WITHDRAWN FROM OR ADDED TO THEM. IT IS TRULY AMAZING THAT WE HAVE BUILT OUR MODERN, GLOBAL ECONOMY UPON A MYTH THAT CONFOUNDS BOTH SCIENCE AND HISTORY, AND YET WE HAVE.

* * *

THERE IS SOME COMFORT IN THE WOLFMAN/GODZILLA IMAGE IN THAT WE KNOW THAT THE FILM WILL END, THE LIGHTS WILL COME BACK ON AND WE CAN FILE OUT AND MAKE OUR WAY HOME WITHOUT DISTURBING OUR NATURAL PEACE AND ORDER.

SUCH IS NOT THE CASE FOR THE POPULATION/RESOURCE ISSUE. ITS NUMBERS INCREASE STEADILY, AS DOES THEIR ASSURANCE THAT OUR PEACE AND ORDER, AS WE NOW KNOW THEM, WILL MOST LIKELY NOT LAST ANOTHER FULL CENTURY. OUR PRESENT POPULATION IS AROUND THREE HUNDRED THIRTY MILLION. WHAT WOULD LIFE BE LIKE IN AMERICA WITH A POPULATION OF A BILLION?

WE SHOULD BE BUILDING AWARENESS OF THESE PROCESSES AND OUR PART IN THEIR GROWTH, AS WELL AS THEIR CONSEQUENCES FOR US AND OTHERS. AWARENESS IS THE FIRST FATEFUL STEP UPON WHICH UNDERSTANDING AND ACTION MAY BE BUILT. ONLY AFTER DEVELOPING AWARENESS CAN WE APPROACH OBJECTIVITY AND THEN TRUE KNOWLEDGE. IT IS VERY MUCH AN ACTIVE INGREDIENT AND, BECAUSE OF THE MIX OF CIRCUMSTANCE IN WHICH OUR CIVILIZATION NOW FINDS ITSELF, IT IS "REQUIRED READING". WITHOUT IT OUR HUMAN CONDITION AND THE PLANET THAT HAS SUSTAINED US WILL SUFFER GRIEVOUS HARM.

THE FORCES WE HAVE DEALT WITH IN THIS CHAPTER — GROWING POPULATION, DIMINISHING RESOURCES AND OUR STAGGERING DEBT — ARE IMMENSE. WE CANNOT ESCAPE THEM BY BUSINESS AS USUAL. WE CANNOT DODGE THEM; THERE'S JUST NOT ENOUGH RUNNING ROOM. THEY SURROUND US. THEY ARE EVERYWHERE WE TURN. WE CANNOT WILL THEM AWAY, AS THEY SIMPLY WILL NOT OBEY. AND WE DARE NOT IGNORE THEM, FOR IF WE PRETEND, NO MATTER HOW DETERMINEDLY, THAT THEY DON'T EXIST, THEY WILL PERSUADE US OTHERWISE IN WAYS THAT ARE SURELY CONVINCING AND MOST PROBABLY PAINFUL.

WE WILL CONTINUE OUR ECONOMIC DISCUSSION IN OUR NEXT ISSUE EMPHASIZING OUR POINTS OF CONTACT WITH EUROPE, CHINA AND JAPAN. UNTIL THEN WE OFFER AS A TRUE MEASUREMENT OF OUR DEBT CONDITION THE INFORMATION BELOW:

STUNNING STATISTICS

CONGRESS HAS RECENTLY RAISED OUR NATIONAL DEBT LIMIT BY \$1.2 TRILLION TO \$16.4 TRILLION. THIS IS INTENDED TO PROVIDE SUFFICIENT FUNDS TO OPERATE THE GOVERNMENT THROUGH THE END OF THE YEAR. AS THESE FIGURES ARE SO LARGE THAT THEY TEND TO LOSE ALL MEANING, HERE'S ANOTHER FRAME OF REFERENCE.

IF CONGRESS WERE TO HALT ALL SPENDING AND PAY DOWN THIS DEBT AT THE RATE OF \$100 MILLION A DAY, IT WOULD TAKE ALMOST 450 YEARS TO ELIMINATE IT. OR, AT THE RATE OF \$1 BILLION PER DAY IT WOULD TAKE ONE MONTH LESS THAN 45 YEARS. NEITHER OF THESE CALCULATIONS INCLUDE PAYMENT OF INTEREST.

AN ADDITIONAL NOTE OF CONCERN COMES FROM CITIZENS AGAINST GOVERNMENT WASTE, A PUBLIC ADVOCACY ORGANIZATION FOUNDED BY J. PETER GRACE FOLLOWING HIS CHAIRMANSHIP OF THE "GRACE COMMISSION". IT REPORTS THAT OUR DEBT INCREASES AT THE RATE OF \$4 BILLION PER DAY.⁶

THE WIDE ECONOMIC DISCREPANCY BETWEEN THESE TWO MEASUREMENTS HAS YET TO BE ADDRESSED BY OUR ELECTED GOVERNMENT.

ECD 1/14/12

END NOTES

- ¹ THE POPULATION INSTITUTE, WASHINGTON, DC
- ² ASSOCIATED PRESS VIA PALM BEACH POST 12/9/11
- ³ POST CARBON INSTITUTE MUSELETTER #235 OF 12/11 BY RICHARD HEINBERG
- ⁴ IBID
- ⁵ MATTERS OF CONSCIENCE, ISSUE 33, 12/11
- ⁶ CITIZENS AGAINST GOVERNMENT WASTE — LETTER FROM THOMAS SCHATZ TO MEMBERSHIP — 11/20/11

EDITOR'S BIO

MR. AULT IS RETIRED FROM BUSINESS, A GRADUATE OF YALE UNIVERSITY, AND THE AUTHOR OF A RETAIL FOOD STUDY (LA ROCHE & Co. NYC, NY 1957) WHICH DESCRIBED THE EMERGENCE AND GROWING DOMINANCE OF THE SUPERMARKET IN AMERICAN FOOD RETAILING; AND EMINENT DISDAIN: THE TRIUMPH OF CYNICISM OVER INTEGRITY IN 21ST CENTURY AMERICA.

THE AUTHOR'S SECOND BOOK, WHO LOST AMERICA?, COVERS ISSUES 19 THRU 27. PUBLICATION HAS BEEN DELAYED BY PROBLEMS IN ITS PRODUCTION PROCESS. WE PRESENTLY ANTICIPATE THAT IT WILL BE AVAILABLE FOR ORDER BY MARCH 1 FROM THE PUBLISHER, AUTHOR HOUSE, AT 888-280-7715 OR ONLINE AT AUTHORHOUSE.COM.

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