LETTER - TRANSACTION

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Transactions in Leukemogenesis - Cancer:

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The purpose of this article is to outline new answers to retro-viral immunity, basic medical science of cancer biology, and avenues to treatment of the already afflicted. The subject and research pertaining to the retro-viral restriction, concerns dynamic conferral of restriction based immunity to unafflicted organisms, is discussed. A vaccine using retro-viral half-shells will prove to be one avenue of prevention of the development of infection; using "bout-derived immunity" i.e. X-ray de-activated dummy virus demi-shells are an easy avenue toward retro-viral immunity. Retro-Viral vaccines are already in use, and the kinetic for immunity is already in use in hospitals worldwide. Leukemia and lymphoma are readily contracted after exposure to both deleterious x-rays (ionizing radiation), as well as particle radiation. The LD50 exposure is nearly 650 rads. Any more always leads to death. Sun-bather's sickness from x-ray exposure is well known for causing melanoma in white(s), and is second in place to developing lymphocytic sarcoma(s) of all types. Some chemicals are also teratogenic. Methods for sarcoma treatment have included blood exposure to UV light, as well as blood warming to kill off and cleanse the blood of high-titre retro-viral concentrations. Heat treatment (hyperthermnia) of the blood works due to the fact that all viruses are heat intolerant. Already hyperthermia patents have been awarded for the treatment of geital herpes as well as Hepatitus C. Recommended treatment temperature is below the $< 39.1\, C^{o}$,) limit, and step-wise (on-day, off-day) treatment can be accompanied by longer run times, over two-weeks, mimicks a fevers course; delivers the same viral LD effect due to the direct linear decreasing mathematical progression in LD with increasing temperature and time of exposure for such organisms.

There are at least 6 ways to inactivate retrovirus in the laboratory, i.e. UV, Heat, X-ray, Soap, Alcohol, and Ultra-sound. Conversely virus of any kind can be frozen, however, without affecting their virulence. Most lymphomas as well as leukemias are derived from genetic deletions, and have associated EBV mutant analogues; differing in leukocytic target cell developmental phenotype; all show EBV positivity from immunoflourescence. By example, a typical EBV infection is mono-cytic lymphoma (mono), renders its victim with tremendous fever and weakness. In a typical population of victims, the fever occurs in 30-40% of them. This lasts several weeks (4-6 weeks) with fevers developing to $39\,C^{o}$ or more. The fact that fever is causal for cure from the EBV retro-virus shows conclusively that Even a single degree increase in in-situ temperature destroys 99.999% of any virus or retrovirus. The claim that total erradication is also true from that method alone. This is true in the lab for both UV, and warming. These two forms of sanguine treatment are very effective and cause no genetic damage to the hardier cellules and organelles present in common blood. Sanguine warming can be an effective avenue for treatment if administered early and correctly.

The ones that do not develop a fever remain infected and thus weakened for the remainder of their lives. Evolutionarily speaking, viruses can proliferate more without inducing fever than with inducing fever. The same is true of retro-viral radiation leukemia virus as well as retro-viral AIDS. The mechanism for X-ray radiation induced sarcoma(s), such as leukemia, is due to the fact that the ionizing radiation causes genetic deletions and is causal for release of the radiation leukemia virus from its endogenous and otherwise inhibited position within the human genome. It would be well to insulate home(s) against both x-rays as well as particle radiation from the Sun, by lining roof tops with x-ray proofing. It would be also be well for industry to develop x-ray proof lotions for sun-bathers. For carcinoma(s), the linkage is direct; the level of cancer is directly linked to the length of exposure to automobile exhaust. The more one drives, the more exposure there is to those toxins. To the extent one does not drive, the risk goes down

directly as well. Increased Oxygen partial pressures for homes, automobiles, and hospices as a part of air-conditioning, remains this author's recommendation, as Oxygen is Earth's natural disinfectant.

The 'No-Vacancy' bout-derived restriction mechanism is simple. This approach is also colloquially known as the poor man's locksmith method, viral bout-technology insulate a target cell by locking out full-body virulent virus at the cellular membrane level such that retro-viral cellular entry into the in-vivo system is blocked. This is mediated by occupying the hemi-acetal chair in the antigenotropic receptor of bio-protein; lays in-situ with a typical cell's outer membrane. This implies that other virion bout(s) could be a method to uniquely effectively de-activate and protect the channel-protein doorways to the cellule's genetic nuclear engine, from infectibility. Still further the restriction to access the cellule's genetic code may be similarly protected by similarly immunizing the nuclear membrane from infectibility. A bout-producing plasmid product could be used also to protect the nuclear membrane interior in any eukaryotic host; thus potentially conferring restrictive immunity at that genomic operon level. Reversal or abrogation of restriction based immunity in any in-vivo subjects can further the knowledge field, also. Typically abrogation connotes restriction itself as a phenomenon. Here abrogation is used in reference to durability / strength of immunity (parsimony), in reference to x-ray de-activated, centrifuged, bout-based vaccine, re-innoculation intervals.

Virological RadLV is a useful tool for study. EBV, HLV, HIV, HPV, and WNV, can be heat treated as a first-line defense remedy, provided the patient is hardy, and not gravely infected, and not mentally ill, (suicide risk). Sterile technique is critical, due to the return routing of the blood after warming. The technology already exists, e.g. surgical units already have Thermal Angel machines to warm-up refrigerated blood, before transfusion. Typically anesthesia and antibiotics are co-administered for pain, and infection, respectively. This mode of treatment should be fully successful.

The same temperature sensitivity can be used as therapy and readily applied to infected in-vivo subjects with pharmaceutical fever inducers; a 14-day fever treatment regimen, spread over 30-day hospice stay, will completely eradicate the infection, and the disease. Included in the protocol is concurrent administration of aspirin, low dosage heparin, or a vitamin K clot-blocker shot to avoid stroke and potential clots, as sometimes accompanies a viral fever type immune response. Typical patient regimen would include a 30-day hold-stay. Once other formulary based protocols have been developed, they will serve the surgical phlebotomic devices are already devised for sanguine warming. Patient controlled temperature settings should circumvent harm. Sterile equipment is a must; a prophalctic anti-biotic shot as assurance. Developing a machine that can perform both tasks with sterility (UV and blood-warming) is imperative, i.e. Bair Hugger or Thermal Angels. These hyperthermia techniques can also be used to decontaminate tainted blood. These should be goals in the treatment regimens for retro-viruses in general.

Fever therapy or blood warming excels by denaturing retro-virus by focusing on their temperature sensitive nature. Temperature sensitive mutants are a rare event. Overall, a 2-3 degree fever using a blood warming device, and working much as the UV blood screens, meets with linear decreases in virion titre, and is a function of temperature and time of exposure, at therapeutic temperature. The di-sulfide, and di-carbon long-chain bonds easily degenernate with temperature, thus the smaller protein un-ravel first, thus de-activates them by loosening their tertiary conformation. Freezing temperatures preserve them however, and virions do not lose their infectious virility from freezing. In fact, the practice still is to store them in liquid nitrogen. Presented below are two equations that depict the effect of both warming and UV, each have LD100 as linearly decreasing functions, and both easily achieve zero live virus titre as a direct function of time and temperature. This is true for UV blood therapy which should precede blood warming; this is especially true for the AIDS afflicted; the weaker subjects do not tolerate

blood warming. In such subjects UV blood treatment therapy, should precede blood-warming therapy. Both treatment modalities is a natural choice front-line regimen for retro-viral infections of all kinds. This will be helpful for the AIDS patient population directly, and in the field (Africa) restriction-based vaccines may be a medicinal regimen one day, much as Hepatitus vaccines in this day.

The theoretical break through in UV short-wave radiation as it applies was discovered in 1979-80 by this author. Live retro-virions which easily cold temperatures cleave into two or more parts when exposed to long-wave UV light. Thus as discussed mathematically below, the LD100 is easily achievable even with dirty non-filtered super-natants; is a linear function with time, and leads to 0% live viral titer-counts, even in sanguine blood. This can also be used as a method to cleave retro-virus and collect the still bio-sticky shells after being separated from the retro-viral RNA/DNA. This has been the practice in laboratory for some time. As mentioned earlier attachment of "half key-bout" virion shells which can render an organism neutral to infection through restriction based immunity. Occurring at the agranulo, mast, and/or lymphocytic T-cell level, nar-rowing in on the parsimony of complete and reproducible immunity is the goal of this scientist at the basic medical sciences level.

As a field therapy - treatment method, would resort to moderate temperature treat-ment, using a distillation apparatus to treat the blood. Such a system would distill water, and use the blood as the cooling jacket liquid, thus gently heating it; maintaining heat for the requisite period of time, as determined by formula. Conceivably, two water (H2O) distillation apparatus could be hooked together, the output of one would feed into the other’s input. With monitoring, and feeder and collection drip IV bottles at the correct height, the system would work by gravity alone without strain; for victims of retro-viral infections of all kinds, e.g. murine, feline, simian, or human. With proper technique this goal is achievable.

The virion LD equation for this kind of therapy is thus: $\int_{t_i}^{t_f} k\,\Delta T_{temp}\,dt = k\,\Delta T_{temp}((t_f - t_i) + C_i)$; where: $\Delta T =$ the value of temperature difference, $t_i =$ time, k = the constant of proportion, and $C_i =$ the constant of integration. The virus titre is the sign negative of this function, thus: $(-)\int_{t_i}^{t_f} k\,\Delta T_{temp}\,dt = k\,\Delta T_{temp}(-)((t_f - t_i) + C_i) = k\,\Delta T_{temp}((t_i - t_f) - C_i)$. Similarly, UV(hv) photon energy maybe substituted for temperature differences in a similar way, i.e. using a constant of proportion.

Part II

By now, bi-energy hybrid systems will soon be available from the automobile industry. Simple electric rear axle combined with fuel efficient production 3-cylinder 2.3 litre H_2/fossil fuel internal combustion engines with front wheel transmission systems; can be offered in featured switchable all-wheel as a vehicle option packages using H_2 electrolytically produced from water in a fuel-cell; hybrid 4 x 4 dual-mode automobiles may solve the fossil fuel dependence as an energy source for surface transport. Such a hybrid system preserves the internal combustion engine design, offering two petroleum-free options and modes (Hydrogen-Oxygen from water, and Solar electricity). Alternatively, electric turbine engine systems could one day be an option. Electric systems are pollution free, as is H_2 fuels. Electric systems are easily solar re-charged and with car-top mounted solar-cell technology, can render a full charge in as little as 2 hours time. With additional AC-plug support dual purpose cold-weather warming, add to all-weather performance modalities.

The catalytic converters of this day, are producing more odorless exhaust/pollutants, but they are over 10 times as carcinogenic as those a decade ago. In development is a said catalytic converter CO_2 -> O_2, to treat exhaust "greenhouse" emissions reclaim

Oxygen, of all types of input oxide forms. This method can be used to treat coal fired power plant emmissions as well as car exhaust. This is accomplished by extracting Oxygen using the nucleophilic substitution of alkenes with exhaust carbon dioxide (CO_2); could occur by acid catalyzed michaelson addition across the double bond used industrially as a method employing a common gringard type of phosgene reaction. Re-calling the "Hay-Gas" reaction with phosgene, carbon dioxide, hydrochloric acid, and water, catalyzed by acid, can absorb CO_2, produces a graphite and oxygen as end-product. Hot KMnO4 could catalyse the oxidation of the phosgene alkene to a diol; followed by reductive ozonylation to produce the carbon graphite alkane end-product. This would repeat itself as a 3-part cycle.

1). 1(C=C-C=C) + (2CO2) + HCl -> (02=HC-C-C-C-C-CH=O2) + KMnO4 + Zn/Sn/Pt -> 1(C-C-C-C-C-C) + 2(O3) + hv + H30+ -> graphite + 2(O2) + 2H2O.

2). 1(C=C-C=C) + 2(CO2) + HCl -> 1(HOH2C-C-C-C-C-CH2OH) + KMnO4 + heat + Zn//Sn/Pt -> 1(C-C-C-C-C-C) + 2(O3) + UV(hv) + H30+ -> graphite + 2(O2) + 2H2O.

3). 2RMgX + 2CO2 + HCl -> 2RCOOH + HMgX + KMnO4 + Zn/Sn/Pt + heat -> 2RCH3 + 2(O3) + UV(hv) + H30+ -> 2RCH3 + 2(O2) + 2H2O.

4). 1(OClH-C-C=C-C-HClO) + (2CO2) + HCl -> (O2=CH-C-C-C-C-CH=O2) + 2HCl + KMnO4 + Zn/Sn/Pt -> graphite + 2(O3) + hv + H30+ -> graphite + 2(O2) + 2H2O.

This cycle repeats, forming the butadiene, recycling by reducing common greenhouse gases; releasing and thus renews life-giving O_2. Another method to produce Oxygen from CO_2 (Carbon Dioxide), is by using gas catalytic separation into carbon-graphite and O_2. By the said "Hay-Gas" chemical reaction involving phosgene reduction

of the oxides of carbon, sulfur, and nitrogen, into graphite, free molecular Oxygen, and H_2O. This will make difference based upon how efficient they are at reducing ambient free radical dioxides, into free molecular Oxygen. Presumably by their third and fourth design generation, subsequent required phase-ins, could turning around this trend. Aiding the fight greenhouse gas reduction through this catalyzed reduction converter one day will reverse the trend of atmospheric molecular Oxygen depletion, into a replenishment modality. This would have popular public appeal, too.

Due to the huge burning of fossil fuels and the advent of the automobile with the care free notion that "buy a car today while the Oxygen is still free" became a strong selling point for such vehicular ventures; particularly inspite of alternative Solar/Electric. They were unaware of the collateral damage that occurs, in terms of the parallel advent of carcinomas (cancer); the equally sudden appearance has never reversed itself. This has been shown to parallel decreasing molecular Oxygen levels on the bio-sphere are at a 50% depleted level due the the internal combustion engines around the world; operating day after day for over 100 years. By treating these gases, and freeing up the molecular life-giving Oxygen in them, by chemical reduction alone is along the same lines as which occurs from the plant population’s biospheric reduction into sugar(s), with molecular Oxygen release; is parallel in chemisry. Whether Man-kind can out-wit their own extinction from suffocation by doing as the plants do, would depend upon any one Units individual scientific focus to find a solution to the problems of the day, taking on this responsibility has been shown at the individual entrepreneurial leadership level. The Cadmium Selenium based solar-cell technology have been superceded by LiFeSO4 and LiFePO4 based technology allowing higher voltages to be achieved. Companies are already trading with 1000% increases in their stock; shown to soar upon IPO.

Reducing the dependence on foreign oil can be reduced 90% with switch-over to a fully Solar/Electric based energy economy. No-terrorist can interfere with the nor sabo-

tage the Solar source; additionally such technology rescues terrorist nations from the excuse that dabbling into nuclear atomic science could is for energy purposes. Thus supplying the electrical science and denying the nuclear science, two objectives in the Mid-East are achieved with one stone of technology and two strokes of a pen.

Noise pollution which accompanied the internal combustion engine could decrease by 90%. Heat pollution also could decrease by 50%. Geo-Wind-Solar-Electricity and Solar-Recharging photo-cell photo-voltaics provide twice as long-lasting a charge over conventional AC-Adapted DC-current. Car panels could virtually replace the filling station which would apply for short-term travel only. Long-term surface travel would be Solar-powered. The on-board internal combustion 3-cyl engines meet greater horsepower surface requirements, (up-hill mountain passing horsepower).

Foreign-oil imports with their financially crippling economic effects have led the country to their financial doom. The western developed nations must switch over to Solar power. The nations that do will survive financially, the ones that don't, won't survive. Power is the next big wave of the future, after the information age, which suceeded the iron age. Solar panels re-charge all-batteries, and can be power converted to AC (inverted); during parked car conditions; full-charge occurring typically in 2 hours from empty; is easily acheivable; The photo-electric effect bridges the gap by displacing the electron with the momentum of the photon, displacing it by eleastic displacement, thus creating current. The transfer is energetic, trappable, and is also known as the Compton effect scientifically. Any vehicle would employ affordable asian block countries current day produced technologies. Powercells of all types and kinds are available at retail technology counters around the world. More typical LiFeSO4 and LiFePO4 higher energy UPS systems will replace NiMH; dry lead-sulfate battery UPS power-systems which already store day-time line energy for low power night-time use.

Engine roar from cars diminishes by 90% with electric cars; should be encouraged over all other forms of oil energy replacement; in that way no change in specie of energy occurs, thus increasing efficiency. Electricity from Solar power does not deplete life-giving molecular Oxygen. The Geo-Wind option could easily find their niche near coastal environs e.g. sea coasts, and/or great lakes. The Solar-Cell photo-voltaic effect technology will soon lead as sources of green-energy; only needs a monetary incentive for all typical drivers yearly, as to include an Oxygen friendly green-energy Solar/Electric car rebate (e.g. free-yearly-registration), combined with a fossil fuel user registration would in this switch-over scheme, carry a stiff yearly Oxygen-use greenhouse-gas producer tax. Road tolls, albeit un-popular, between cities increases revenues as well as increase intra-state security. Solar-power farming with Nickle Cadmium / Selenium Oxide photo-voltaic solar-power-cells can produce paychecks for the farmer during the winter months, as a winter crop; has been developed in California to the point where electricity is its chief interstate export product.

Using solar-cell technology in Solar-farms should be measured in hundreds of square miles, (e.g. 400 miles x 400 miles) squared equals 160,000 square miles. These would appear as a square patch aerially, in desertified areas, ideally. This can be easily achieved in separate installations of 15 square miles apiece. These power-plant outputs these kinds of patched power would reach to 10.66 Tera-Watts of free every-day, sun-belt, 120-240 Volt, no-overhead, raw, exportable line-power. High-light energy would be kept for low-light conditions in reams of dry lead sulfate battery backed power-verter UPS back-up systems. Either as entrepreneur company, or state owned and operated, all these are rocketing, un-tapped knowledge-found industries. Nickle-Cadmium Selenium-Oxide photo-cell sheets are already an everyday industry that must be cultured in the roll-over with the auto-industry fossil-fuel energy specie phase-out. All these should pass easily within any local city / state legislatures. This idea is user friendly, has no emissions danger, no radioactivity, no down-side, is on tap as part of California’s golden state

and has no bio-hazard risk, renews itself every western day, has no run-cost - overhead.

Since the Sun is burning heavier elements, the solar heat is greater and the heat received by Earth greater as well. Decreases in solar nuclear hydrogen fuel, cause heavier elements to form. This in turn leans toward increases in density, decreases in volume; both together increase the gravitational pull, and cause a decrease in the radius of the orbits, for our solar system's planets around this Sol, our Sun. Essentially the Earth is being pulled into a tighter orbit, due to the increased age of our Sun; the burning and production of heavier elements, is increasing the density and thus gravity. This will naturally lead to the higher planetary temperatures. How we handle heat-energy skillfully, will determine whether Man-kind will be able to survive as a global specie.

Until fully electric automobiles come online, additional alternatives per said Carbon dioxide reduction systems could potentially be catalyzed into Ozone-Oxygen conversion; Ozonylation by acid catalyzed condensation-reflux, is central for molecular Oxygen production - the final part of gas processing. Ozone as an tri-atomic element becomes a health hazard due to its free radicle basic nature. The development of such elemental catalytic Oxygen producers, from CO_2 could answer Earth's now critical need for these soon depleted, life-giving devices as atmospheric Oxygen levels of less than 6% become non-viable to animated life-forms. When constructed the graphite-carbon producer would be filtered off and changed as a maintenance cycle of non-electric, Oxygen hungry fossil fuel burning cars are the primary source of Oxygen loss and greenhouse gas production. As preventative measures, house-tops should be made X-ray proof; home Oxygen levels should also be augmented through the added input of O_2 tanks. Perhaps there will be a day when terra-forming of other planet's atmospheres could occur using these chemical pathways. The atmospheres of other worlds will always be a function of 6 or more elements, most common from the stellar sources terrestrial worlds stem from, are namely: (Carbon, Oxygen, Nitrogen, Hydrogen, Sulfur, and Phosphorus). Converting the oxides

from these elements to release O_2, viable Oxygen can be produced for example, with an extraterrestrial bio-sphere.

Molecular Oxygen (O_2) is Earth's natural disinfectant, and anti-teratogenic. This already is old world knowledge. The reduction of global Oxygen content measured as atmospheric partial pressure, percent-wise has decreased from 32% in 1932, to half that amount in 2005 (16% O_2). Cancer rate increases epidemiologically have been demonstrated to be Oxygen related (Nobel Prize of 1932); as such increased carcinomas have been linked to metropolitan areas with gross air pollution and other on-going decreased molecular Oxygen partial pressure. Said power-plant and car exhaust emmissions can by catalytic Carbon Dioxide reduction conversion can produce graphite and Oxygen as main end-products; maintenance cycles for graphite filter replacement would under this scheme require yearly service; the Oxygen would replenish the atmosphere beyond the amount the motor part consumes, and would reduce greenhouse gases by eventually depleting Earth's greenhouse gases, could eventually double the molecular Oxygen concentration of Earth's atmosphere in 50 years, instead of depleting it by that amount, as the automobile has already done. Also concerning kreb-cycle oxidation-reduction works the same in principle to all formal ion-exchange systems and is common also to battery-recharging systems. Biochemists need only look toward modern voltaic-pile tecnology to be reminded that some biological forms have kreb-cycle oxidation based on AMS, ADS, and ATS, Adenosine Mono-Sulfates, Adenosine Di-Sulfates, and Adenosine Tri-Sulfates and their NADSH2 reducing agent counterparts. Perhaps one day electricity could be used to make sugars from CO2 gases from the atmosphere, using electricity to propel the Kreb cycle backwards. Furthermore hybrid cell lines from cell-fusion of myeloma with stem cells could launch the science of immortality, by introducing these immortal cell lines into the body; extending the generations of daughter-cells by several thousands of generations.

Part III

Pertaining to jet travel, for all aircraft, the development of crash-proof "strong-wing" technology is a must for the 21st century. Alternatively CNG-LP gas powered turbines, are much more powerful than conventional diesel ones. They pollute less, show cleaner products (CO_2 and H_2O), no diesel sutte, and less engine wear, than conventional systems. The LP tanks could easily ride upon a carriage, which could just as easily be switched out, for re-fueling. Using this design, would also make them jettison-able, for emergency landings. Furthermore, fully electric battery-powered flight may also be an option.

Full automation (auto-piloting) of small (T-3) trainer fighter jets can be radio controlled and coordinated using the AWACS type aircraft. Smaller radio-controlled pilotless aircraft are much faster and impossible to see on radar beyond a certain (closer) range from smaller arc-width increasing with distance; so being underneath radar sweep, thus cannot be destroyed neither by heat-seeking missile if by construction, use of electrical battery powered propulsion systems were used. Radio-remote-controlled-(RC) multi-jet, multi-plane, multi-tasked, linearly optimized, AWACS, coordination programs are an everyday affair, and would be easily adaptable to such programming, saving pilot and limb alike. Such would be invincible on the battle-field, with little effort, technologically. The spin off technology would be easily used to pilot civilian automobiles (GPS guided vehicle auto-pilot programming).

Helicopters propeller blade assemblies should only use counterweights of Plumb (Pb) in their designs. The use of other blades will only result in factory level errors in matching weights with another blade. Plomb counterweighted propeller blade assemblies are easy to design with 1, 3, 5, and 7 blade (Pb) balanced, one-piece, counterweighted systems. These will offer the soldier much more reliability in the field, with solid repro-

ducible performance. So many soldiers have lost their lives to blade with blade assemblies which have intrinsic centrifugal imbalances, and which tear apart in service; this does not occur with (Pb) counterweighted designs.

Regarding the U.S. Navy's Osprey concerning their tilt-rotor directional instability, such tilt-engine problems are from this type of aircraft's reactive torque when engines are not matched in tilt and their rate of tilt-change; also essential is rotor RPM's match-up. The net torques will cancel when the engine assemblies are matched in this way. Further remedy to safety would be to double the number of engines to four. A flight computer could readily serve as a tool for this type of controlled coordination. Mounted on a single carriage have the effect of enabling a 2 x 2 engine performance. Balancing the crank shafts to greater tolerances, will have the effect of preventing malfunction in the engine performance.

Furthermore, recovering from Space X's recent litany of failures regarding multi-stage rocketry, a noteworthy solution involves the design of nested single-stage rockets, one inside the other, e.g. ornamental Matreshka nested dolls imitate this design in art-work. A 3-stage rocket would successfully launch its payload in a foolproof manner, with what has been demonstrated to nearly 100% of the time, using SRM technology (Solid Rocket Motors).

Noteworthy for the astronomy buff, the alloys of at the For an era of reflectors versus refractors concerning light gathering capability. Refractors always produced the best photographic results, versus the similar aperature and light-gathering power in reflectors. This does not have anything to do with design. However, these phenonmena have more to do with the reflective material on the reflective surface. Namely do with the fact that the said efficiency, or lack their of, multiplies itself with every additional reflective surface. By contrast, previous elements in the trade, i.e. Aluminum-Al was only capable of 88% reflectivity. It is used routinely in this day including major

astronomical ones too most modern telescopes. Compounded 3 times (e.g. a 3 mirror system, the loss multiplies itself by this same coefficient repeatedly as:

i). $([(1-x)-((1-x)x)]-[(1-x)-(1-x]x)$; where x is the % loss in reflectivity/mirror, such that, for example, the light-gathering-power of a typical 4-mirror system would experience a similarly geometric loss for any compound reflector system.

Nickel (Ni), Chromium, and at least 19kt. WHITE gold (Au) would improve reflective efficiency to 99% or above. Also white gold (Au), is the most resistant to oxidation than all the others. This recommendation will restore the color spectral components and other missing electromagnetic data (IR and UV) so easily lost in compound telescope transmission failure rate; all due to reflective material of their coatings reflectors, particularly acute in visual reflectors - their cold-to-color photographs. Additionally white (Au) is highly malleable, is easily polished, is high in luster, reflects all colors correctly with negligible loss; all attributes for any serious reflector astronomer.

Additionally, LCD/LEM scientists could learn from crystal growers in the jewelry businesses, how to produce more vivid and iridescent color from synthetic Opal crystal growers, the hexagonal matrix with a central color dot could be synthetically grown (SiO_2) to form better computer screens. They both utilize trapped liquid within crystalline lattices to form colorful reflective surfaces.

Since the advent of semi-conductive crystalline materials, implies fully conductive, even super-conductive x-tals may also be synthetically grown, and eventually come to market.

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