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Research Article

SUSTAINABLE PATHWAY BY MANAGING ROBOTS

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ABSTRACT

The civilisation is impressive human achievement, with development of social setups and technical spreads, operated by «knowledge», via relational and e manufacture modes. The trails include collective breakthroughs and technology revolutions, leading to amazing progress directly yielded by human intelligence, as if cosmic rationality or godly wisdom originates it. The progress, based on the bounded earth, shall stop due to source lessening and waste piling, unless safe retrieval occurs. The social settings and technical inventions analyses look as if the intelligence leads to creative chances, adding before not existing possibilities: the «knowledge» is not just encoding of items or facts to be shared, but also resourceful concept formation. The thought is skill, backing societies and discoveries, and allowing new findings: the artificial intelligence allots parallel talent to synthetic hands/minds. The growth sustainability can follow optimistic leeway: the earth/universe unbalance tells that the former never affects the latte; fitting managing robots can fetch raw resources to earth and remove toxic wastes from it, negligibly upsetting the universe.

KEYWORDS

Relational Mode - Manufacture Mode - Human Intelligence - Collective Breakthroughs- Ecology Globalism - Technology Revolutions - Managing Robots.

INTRODUCTION

The civilisation is men's invention, which combines social structures and technical enhancements, by the consistence of political frames and of the material resources, towards human friendly settings. Men devise and build apparels and homes, manmade attires and dwellings: these have suited design and construction by proficient operators. The relational modes characterise the interpersonal behavioural competences; the manufacture modes specify the individual adroitness, creating the «homo politicus» and the «homo faber», as if these modes are current virtue of humankind. The relational and manufacture modes operate if the ensembles have undergone suited training; the human baby needs long joint tuition or meme fruition, by which the emulation and simulation play relevant roles. The collaborative instruction is tricky way: «learning by doing» becomes safe practice, with possible extension to robots.

The political and technical notions, on the earth, link to men, showing reasoning and imagination talents with, perhaps, spiritual gifts, opposed to matter traits. Today, we connect the thinking and data processing, with parallel tangible (carriers) and intangible (agreed readings) flows. The corporeal manifestations of the reality have parallel abstract descriptions, once onlookers and explainers operate, providing observations and narrations. Computers and robots assure efficient results, if they yield to «knowledge systems», with cognition functions. On the earth, the «knowledge» is contingent invention of men, locally encrypted in the native languages. For sure, the «learning by doing» does not need explicit «knowledge».

At the point, we shall note the big men's faith: the contingent «knowledge» transforms in «science», with physical effects describing (maybe, implicitly) the universe trends by total galactic information. The

spiritual ruling is alternate faith, letting reality splitting into physical and heavenly entities. The two faiths give total portrayals, not just interpretations: dualism has physic/holy separation; monism has stuff, carrying, possibly implicit, quality; otherwise, the «knowledge» is contingent invention, with locally agreed meaning.

Thinking and reasoning are men's chances, assuring aware cognition, with dependent worth. The holy or cosmic tracks, if existent, are absoluteic opportunities, with intrinsic means. The recourse to not just one, but three models shows that we prefer keeping the openings at parallel range and avoiding biasing views of just witnessing earth's facts. The holy or cosmic tracks believe that, behind passing phenomena, absolute truths hide, providing wisdom or rationality foundations to the galactic backdrops. Thus, godly wisdom or cosmic rationality is origin of men's' thoughts and discerning: the human knowledge recognizes spiritual entities or cosmic qualities, at least, as asymptotic truths, because the galactic backdrops are wise/rational bases, not just chaos, without logical and causal orders.

Discernment and judgment seem opposing the plain material transformations and physical alterations, as if decision freedom and creative finding/ruling go behind mere causality, by inspired or inventive logics. The intelligence supplies imaginative options and resourceful cues, to discover and select coherent conjectures. We, today, deal with artificial intelligence tools, hard to distinguish from human reasoning, because the apt programming is sufficient enabler of data collection and decision keeping algorithms. Intelligence, roughly, supplies problem-solving ability; all animals share similar skills, to plan their survival; the Latin anima (soul) is root assembling the different talents and aptitudes, with watch and choice

wherewithal ice. Alertness with mobility and intelligence with reasoning are bases of conscious progress; yet, thinking and judging, after observing and sorting, belong to immaterial spheres, not to concrete reality.

The human intelligence path faces the godly wisdom or cosmic rationality guess, each time, opening fears, if the a priori truths permit devising plausible routes, trusting in absolute facts; the acceptability of a priori theories allows prospecting innovations, even when the hypotheses need many revisions. In the following, the attention focuses on the «manufactures» and on the «relational modes»; the related suitability vary, if contingent or total frameworks apply. The ensuing discussions collect personal ideas [1-5], leaving open the dilemmas, then, the outcomes consequently appear undecided. The open defy of nowadays is progress continuance, face to the ecology critical warning; the quoted peculiar investigations look at the way-outs offered by robotics, through the coming developments of suited industrial revolution steps.

The «industry» looks at the efficiency in the exploitation of hands and minds: at first, by diligence; then, by intelligence. The robots are synthetic of hands and minds, supplying actuation and reasoning, for matter and data processing. The earlier «industry» applies to human manufacturing; the robotic processing allows the unmanned factory. Moreover, the industrial robotics allows on process choices in many other domain (out of manufacturing; administration, business, management, etc., widening versatility and proficiency; it becomes the critical manager of the ecology sustainability after the globalism breakthrough, in the «global village», when the recovery accomplishments can profit from automatic embedded programmes. The paper reviews the

sketched topics, recalling already published investigations.

SOCIO-POLITICAL TRAILS

The civilisation depends, further than on the programmed technical innovations, on the enabled political deployments. The exploitation of the surrounds allows getting nourishment and improving the life quality, if the physical laws are available (with due concern of entropy). The enhancement of societies goes on, if fit behavioural law establish with agreement of each entailed community. Now again, the a priori/a posteriori dilemma appears conditioning the organisations of collectives, in view:

- To communicate, inventing dialects/languages and shaping civic/social setups;
- To transact, negotiating barter and deals for exchange, business and revenue;
- To consolidate, coordinating and managing people's assemblies, under rulers.

The political infrastructures allot worth to the social assemblies. The relational modes of the collectives promote the interactive understanding, trade and governance within the assembly, because the acquired cohesion, agreed rules and passed edicts make possible the three-layer organisation:

- Sociable intercourse: colloquial links of parental/friendly approachability interfaces;
- Fit market format: public endorsement of negotiation determinants and statements;
- Apt authority setup: official enacting of governmental regulation, with cogent appeal.

The bottom up aggregation allows the parting of closed societies, forming nation states; so far, the relational modes cover typified interpersonal layers (alliance, legality and ruling) according to different

behavioural codes, depending on the statuses, allocated to co-citizens, face to the aliens:

- The informal (friendly) sphere allows understanding and interacting with civil traits;
- The indorsed legality sphere sustains transactions, keeping right business dealings;
- The public headship sphere brings in the operation autonomy of local assemblies.

This three-layer social setup typifies parallel regular societies, with friendly contacts in native idioms, fair trades at private rank and official ruling at local nation states. This entails that the regularity has pace wise enabled consistency. The developed assemblages, with cultural, economic and governance blending, run in parallel, potentially autonomous and fight for the supremacy. The political frames lead to split-sovereign, rival countries: the Darwinism competition replicates as selfish genes, living beings and nation states, each over to conquest vital spaces. The selfishness is awkward tactical rule: the animals need to cooperate at the individual ranges, for education and training; the solidarity is vital strategy, with selective collaboration of given genes or individuals. The relational modes, mainly by meme fruition, use simulation and emulation aids, via the abstraction and encrypting of mental worlds of locally interacting peoples. Bottom up localism is factual route and, on the earth, we may devise three social situations:

- The marginal self-sufficiency: with roaming tribes, establishing detached leaderships;
- The split-autonomy: with formation of competing closed societies, aimed at headship;
- The global liability: with similar self-rule citizens wholly exploiting earth's resources.

Idioms, rules and authority offer regular communication, transaction and consolidation, say,

the software tools, to typify the citizens of the singled out nations. When the global liability replaces the local autonomy, the men/tribes/nations self-ruling becomes nonsense: national idioms, state legality and split-sovereignty have contingent worth, only agreed between marginal users. We define three collective breakthroughs:

- Scattered societies of nomadic tribes, changing homelands to look after foodstuffs;
- Country settled peoples of agrarian societies, with worker-centred «industry steps»;
- Uniform globalism, enjoying worldwide contacts and robot-centred «industry steps».

The scattered tribes fashion these tools without interferences; the nation states establish regular layouts, with private and public legalities, under locally agreed governments; the global village needs the transition from the localism, to express the ecology conditioning restraints, expressed by total imperatives that, most of the times, impose restrictions and oppose to affluent behaviours. With the globalism breakthrough, the intelligence and cognition, with the created «knowledge», aims at reaching vital consistency, unless reliable subordinate technicalities provide subsidiary worth to the said total imperatives. The present paper reviews the basic «knowledge» driven progress developments, according to personal readings, [6-19], before hinting the accommodating options, also supplied by robots and artificial intelligence and robotics.

PARALLEL REGULAR AUTONOMOUS SOCIETIES

The relational modes shaping tools, when used by (supposed) free and equal citizens, suitably leads to democracies, with elected government. Otherwise, we may believe in headship by godly grace or natural



selection. The regularity depiction already distinguishes three layers:

- Planned dealing, involving friendship agreements and voluntary covenants;
- Contractual links, presuming private law obligations and promised leaflets;
- Imperative bonds, rooted in supreme edicts, engaging the all communities.

The authoritative headship needs total foundation: the democratic election is meaningful, if the base has correct endorsement. The nation states, mostly, establish on traditions, including a native idiom; it is, then, possible factually to agree on how to socialise, trade and officialise within distinct-from-alien citizens. The subsequent stages implements the formal relational frames, bottom up building:

- The sociality constraints, prospecting right behaviours and wicked activities;
- The business tasks, detailing market regulation and defining money courses;
- The official onuses, stipulating lands' exploitation and crafty empowerment.

The independent sovereignty of the resulting nation states is moot, yet sanctioned by inter-state treaties and made official by mutual edicts. The overlapping recognition authorises the inside folk solidarity, state autonomy and governance lawfulness. For centuries, the depiction deserves steady consent, so that the civil advances identify typical collective links:

- Interpersonal obligations, collected as private rules, for the impartiality regulation;
- Economic foundation, inventing market and trade options, to simplify goods' supply;
- Teamwork establishment, prospecting manufacture effectiveness by standard tasks.

The spit-sovereignty is, possibly, unspoken trait, when only tiny marginal changes apply. This is no more possible, if industrialised countries cover the all earth, with critical exhaustion and contamination trends. The autonomy is trickery: the planet is shared source, no just ownership of instant served profiteers. The globalism breakthrough points out that the growth has to be sustainable, i.e., it shall leave unaltered the life conditions on the planet, for the generations to come: the today inhabitants are guests of the earth: they belong connected contexts, with coupled effects and need practicing aware behaviours. We define:

- Localism: shaping of regular societies, if parallel nation states evolve without cross effects;
- Globalism: setting of uniform society, when the single village shall apply ecology restraints.

The change is puzzling, not clearly understood. The earthy inhabitants, from free and endowed of whole autonomy, appear turned in slave, needing their planning from contexts. The connected relational layers denote lawfulness and authority choices, with regulation goals, after enacting. The behavioural laws have enforced formats by each notion state, adding trans-national pacts. The lawfulness, profitably, resort to religions or natural principles, to utter absolute reasons: godly grace or Darwinism picks. The relational modes are clear mark that, together, individual and collective attributes are enough to typify the progress of the humankind on the negligible planer earth.

At first, the men do not perceive the earth/universe lack of balance: we cannot modify the cosmology; the wisdom or rationality, if reliable faiths, are not human, but galactic features, letting back world's coherence of the civilisation sorts. Yet, the globalism does not look at the universe, rather at the little earth: falling and effluence concern our habitat, after manmade snags.

The wisdom or rationality faiths lead to upper/inner helps, making plausible the human intelligence extraordinary achievements, otherwise far-fetched. The top down spiritual or natural truths, indeed, leads to imagine the holy reality or the galactic information and to believe in total rewards; the earth of the globalism breakthrough brings to total hitches. Until today, the contingency narration is method to describe the civilian, created by social accomplishments; by that way, the progress moves pace wise, each time selecting advantages and rejecting drawbacks according to the timely results. This way is astonishing, if wholly responsible to create idioms, markers and governments, with words/grammars, laws/economics and leaders/sovereignty. The political arrangement sophistication leaves open queries. The civilisation regularity appear replicating upper/inner already assigned patterns, with total wise or rational logics, with godly or cosmic origins. The transcendence typifies holy headships: the Darwinism shows selfishness patterns at genetic, individual and collective ranges. The relational modes easily justify if cognition shapes have spiritual trace or meme fruition construal.

SLIT-GOVERNANCE OR AIMED TEAMWORK

The relational modes develop pace wise, running groups, joined by communication, trade and leadership. The interpersonal links cover typical scopes: messaging, business and ruling. The contacts need idioms, built on symbols with allotted meanings; the market asks correctness; the headship requests authority. Without top down schemes, the relational layers follow pace wise consistency, distinguishing:

- The colloquial society, when communication is fundamental interpersonal link;
- The business society, when economics is dealt with, by legal trade regulations;

- The political society, when government requires enacting fit official protocols.

The fusion of three layers shows flexibility, leaving space to several wandering groups and nation state alternatives, in which all individual are actively involved. The top down version can build wit just passive participation of the people, making uncertain the relational modes functions at the friendship and fairness levels, because of the compulsory relevance of the political management. Actually, we face wilderness vs. civilisation dilemma, requiring proper activity planning for the later, i.e., up to now, we need the right man-centred settings, suitably tomorrow turned in robot-centred job programming. The top down plans seem little akin with the relational links, in view to substitute processing methods, by efficient schedules:

- To communicate, turning local human languages into global robotic instructions;
- To transact, defining activity plans and negotiating the suited business schedules;
- To consolidate, enabling synthetic teamwork, to cooperate under ecology bonds.

We, thus, look at top down results by bottom up (men or robot) accomplishments. Presently, the 'global village' combines several societies, whose borders shall disappear: the ecology restraints are the same for each communities; the nation state parting is intriguing, after compulsory globalising issues:

- Worldwide contacts, with information exchange for efficient communication, business, etc.;
- Worldwide source supply and waste disposal, affecting the all earthy populations and lands.

The language localism, possibly, is transitory stage, by computer interfaces; the machine languages come to

be standard, for administrative, business and all clerical tasks, after earlier manufacture jobs. The global market has to remove tolls and charges, thereafter, improving traffic and handing tools. Without economy reasons, the political ones look at culture and ethnic foundations. We shall remember that:

- «economy (oikos+nomos)», regulation of trade done by garbed people in artificial dwellings;
- «ecology (oikos+logos)», narration collection on life changes after artificial dwelling building.

The civilisation avails of dresses, houses and other manmade items, not existing in nature. The artefacts need production duties and start businesses and markets. The ecology is recent concern, when globalism affects the all earth, deeply altering the original equilibria, unless recycles and renovations apply. It, as well, promotes new opportunities and sceneries. The investigation of these grows along the manufacture trails; the relational ones, still, create cross-links with cultural, private and public relevance, to obtain regulations. The data management is human peculiarity, traditionally involving knowledge systems, to help storage and handling tasks, notably, by computers and robots. The interactive links remain at factual worth, out of total validations, unless upper/inner causes overlap. The worldwide web, also, is software, removing all barriers on hardware potential, affecting the social setups since the all world reduces to community.

The relational links allot distributed and contingent sociability, lawfulness and dominance effects, based on emulation/simulation forecasts. The globalism switch to the image of «slave» citizens, forced by planning from the contexts, is faulty, if the upper/inner steering causes have factual helps. The widened teamwork is more plausible model, when the worldwide web unifies the sociability, lawfulness and

dominance upshots. The new model implies «citizens' altruism», looking at the wellbeing of all individuals by the everywhere full protection of safe life conditions. With altruism, the creation of disparity is unlawful: the teamwork merges the objectives, assuring the uniformity of the results, simply, by correct programming, without the need of controls. The matter is complex and cannot limit to the notes. The changes of the globalism breakthrough involve the switching from sovereignty (and spot citizenship), to altruism (and global village); other values need revisions, from freedom, ownership on; the individuality and autonomy do no more enjoy absolute value. The new top down frame refers to information handling computer languages, when dealing with circular economy, depletion/contamination transparency and related ecology restraints under direct robot managing schedules.

TECHNICO-INDUSTRIAL TRAILS

Parallel to the relational modes, the manufacture ones appear, typifying the civilisations developments, if looking at the interactions with the surrounds, after the ones between men. After the «homo politicus», we consider the «homo faber», which characterises by adept hands/minds via dexterity and design doings. The actuation and thinking allow planning and effecting operations, which modify the earlier environs, towards more friendly settings. The adroit actor performs technical schedules, which define listing jobs and tools or technologies. The technical schedules progress from stone, to copper and iron ages; the textile assembly specialises threads and fabrics' production, because of competences. The manmade items bring in creative faculties: the surrounds expand with new processes and objects; thoughts grant forth inventions; the men ideas seem,



at least, providing comfort changes and additions. The technology innovations typify by jumps:

- The clothing revolution: men use manufacture modes' skills for dresses and homes;
- The agrarian revolution: men orderly accomplish farming and upbringing operations;
- The industrial revolution: men exploit energy and physical sources for enhancement.

The body sheltering seems to have been primary compulsion, leading to conceive and building fit apparels and homes. The rural upbringing and husbandry require tricky forecast, to programme the victualling of people in modified environs. The biology notions need to add to the manufacture modes. At the third jump, the actuation and thinking skills have acknowledgment, to aim at enhancements by work organisation. The new revolution modifies the efficiency by thoughtful schedules and diligent task effecting. The zeal, yet, is pilot pick, readily improved by robot sophistication, when minds and hands join, adapting goals and plans. The manufacture involves acts and items done by hands (exploiting adroitness); the second jump sees the parallel of agrarian activities and home manufacture; the industrial revolution requests shop industry, with progressively wider jobs, from textile, automotive, etc., to administrative, business, etc. tasks performed by men or robots. The hands and minds skills allow purposeful planning and effecting; the linked adroitness and inventiveness are marks of human or artificial intelligence, thought to innovation aid. The technology revolutions denote paradigm shifts in «knowledge» and practical training of efficacious hands and minds. At first, these are direct qualification; in the following, biology backdrops offer the details of purposeful tasks; then, actuation and reasoning become conventional proficiency knowhow:

- The manufacture modes typify by intents/skills, aimed at multiple arts and crafts competences;
- The agrarian revolution characterises by discovering the breeding and husbandry capabilities;
- The industrial revolution brands by the proficient efficacy of the front-end activity organisation.

Since the beginning, the technology innovations happen involving creativity, with manmade artefacts, discovered scientific truths and synthetic practical implementations. The inventions establish «knowledge» receives contingent credit at the local interpersonal rank, tailed by total validation by current novelties and wholly proved by the developed theoretical explanations. The scientific authentication of the «knowledge» is fundamental achievement, essential issue for our civilization explanation. The technical courses aim after higher awareness, with the «knowledge» increasing and discovered facts [20-40], along basic prospects:

- Manufacture knack, creating body shields, wears and houses, unknown to other animals;
- Agrarian newness, resorting to biology food reproduction by fit upbringing and husbandry;
- Industrial efficacy, including synthetic hands/minds options and productivity as growth aids.

The revolutions open wholly new visions, never before used on the earth (in the universe). The teaching of the manufacture (and relational) modes is questioned fact; so is the technology innovations. The knack and intelligence appear founded on experiences, but the abrupt changes remain intriguing events, factually registered and, possibly, hinting towards inner/upper causes. Parallel to total views, the personal surveys, [20-40], especially aim at robot trails where on process

«knowledge» allows adaptive tweaks, turning steady diligence by adaptive intelligence, possibly, aimed at economy or ecology objectives.

TECHNICAL PROGRESSION AND INDUSTRY STEPS

The technology advances look at gathered expertise, utilising and transforming material sources, to get fit products by adroit handling and conning devising. The quoted revolutions involve impressive changes: the invention of manmade apparels and dwellings; the discovery of animal and vegetal planned production; the unearthing of synthetic hands/minds schedules, fulfilling helpful enhancements. The findings are creative, prospecting not previously existent artefacts, crop growing ways and actuation gears/knowledge systems. The invention of body protections, discovery of agriculture and unearthing of synthetic hands/minds open wholly new scenarios, adding objects, practices and methods, for fashioning friendly milieus. The home economy, mainly, satisfies impending requests; the shop economy looks at general requests and actually develops, if huge markers stat existing, with new purchasers to satisfy.

The technical growth moves from home bases, using families and relatives' activity, without explicit work place and organisation; the extant condition factors suffer of random biasing effects and home economy is synthetic help, giving fittingly managed spheres. The agrarian revolution brings workers on lands: breeding and farming entail interacting with animals and green spheres, by focused biology aims of rural economy. The industrial revolution starts the shop economy, specialising hands/minds processes and separating the workflows, with effectiveness goals. The shop economy, out of home and rural ones, entails typical steps, which start with manmade manufacture, to include further activities and extra controls:

- «industry first step»: the on line hands dexterity has to perform scientific work schedules;
- «industry second step»: the full mechanisation runs according to the highest throughput;
- «industry third step»: synthetic hands and minds adapt delivery, to customers' requests;
- «industry fourth step»: the robotic solutions apply to all, management/practical, duties;
- «industry fifth step»: the robot-like accomplishment/control runs under eco-constraints.

Step 1 reduces the worker to machine, programmed according to scientific work organisation of highest throughput. Step 2, then, resorts to full automation, maximising the delivery. Step 3, instead, adapts the production to the actually sold items, with on process robots. Step 4, furthermore, applies robotics out of manufacturing, to administrative, business, service, etc., tasks, with adaptive intelligent purposes. Step 5, finally, recourses too robotics for the exhaustion and contamination sustainability, in terms of production ecology. After the home and rural economy, the industrial revolution starts the shop economy, with plants or sweatshops, into which gathering the workflows. The textile factories, automotive yards, etc., exemplify mass production attainments, wholly changing the earlier work organisation and giving rise to the industrial revolution, whose optimisation was the throughput maximisation.

The first two scientific steps are effective, if the throughput finds purchasers; otherwise, the unsold items are spoil and the conversion to the intelligent step ask the inclusion of robotic aids. The change occurs at step 3; in the following ones, we have computers; the shop economy applies at the work organisation of all human goings-on, with robot-aided accomplishments. The «synthetic hands/minds» supply

actuation and intelligence, the two talents, on earth, exemplified by men, but, perhaps, also provided by other inner or upper causes (fully or partly) driving the civilisation advances. The guess allots consistency to the robot gears, operating in lieu of front-end workers. The details cover several fields, managing jobs, say:

- the peculiar manufacture model, identifying the technical skill needed for progress;
- the self-active relational model, for the description of formal interpersonal frames;
- the guidance on technology progression, recalling the steps of industry revolution;
- the advice on collective breakthroughs, openly detailing the nation and global ones;
- the guidelines of end-of-life/reclaiming directives for robot chains eco-consistency.

At first, we place the manmade artefacts. The ensuing results own even clearer worth, to bring forth the social structures, technical progression, political setups and ecology warnings. The absolute worth seems having galactic foundations: the physical laws seem enjoying absolute worth. Suited a posteriori qualified agreement allots universal class to a priori galactic information. The universal class laws have total status: they deserve approval as faiths, supported by conceivable cosmic rationality or godly wisdom hypotheses. The total operation success of «synthetic hands/minds» advises believing in science and technology human discoveries, authorising parallel robotic ways, which widen progress options towards unmanned tracks.

The listed «industry steps» show the central step 3, with robot entry, giving intelligence meaningfulness to the work organisation. This qualifies step 4, when the production schemes typify by adaptive schedules, in which the industrial robots have the autonomy the workflows for economic purposes. The coming step 5

has to explore the flexibility for environmental purposes, continuously interacting with sources and wastes, to grant sustainability by automatic rescue programming. The robot intelligence autonomy means limiting the human freedom, for economy (step 4) and ecology (step 5) reasons. The robot flexibility, from step 3 on, typifies the industrial productivity, initially developed in manufacture; now, applied in administrative, business, etc., flows; in the future, necessary in reverse logistic accomplishments.

TECHNOLOGY HEADWAY AND RELIABILITY QUESTS

The manifestation of manufacture and relational modes, at individual and collective ranges, shows trends, which create the transformation of wild environs and the institution of civil settings. The final progress is intelligence driven: the changes involve material spheres, but extend to interactive tasks, with hands-on operations. The dealings have tangible and abstract interfaces, starting social instances, with cooperation or conflicting issues. The technology headway, conventionally, distinguishes the said series of jumps:

- «clothing revolution»: archaic settings of garbed societies, living in aptly built houses;
- «agrarian revolution»: old structure of settled societies, fed by breeding and farming;
- «industrial revolution»: setup aimed at the direct and robot-aided work organisation.

The industry is original qualification of the efficient work organization, when men reduce to mechanisms and the planned schedule shall maximise mass-produced amounts, using step 1 and 2. The step 3 involves manufacture robots; step 4 and step 5 deal with managing robots, for which the schedules have collective allotted controls, with automatic use of intelligence for economic and ecologic goals. The



managing robotic defers hands/minds' activities to involuntary or implied schedules, so that the results appear spontaneous or indirect, because ruled by obvious reasons, already owing cosmic/godly picks. The latter event justifies by immanent or transcendent faiths; it, also, may ensue from artificial intelligence, via purposely-trained managing robots, which, maybe, resort to <big data> effects. We consider the sequence:

- The dressing conception, with ideation of fabrics, dresses, coats, etc. to cover bodies;
- The housing formation, with building of suited sheltering lodgings, villages and towns;
- The agrarian produces, after appropriate breeding and farming, replacing wilderness;
- The productive establishments, with fit parting of tangibles and data processing shops.

The example accomplishments include technical inventions. The list of undertakings begins to satisfy just human needs, not shared by other animals; then, it includes hands/minds' jobs, allowing planned produces; finally, it formalises the work schedules, for optimal controlled deliveries (starting from manufacture). This technical way happens receiving a posteriori validation, looking at selective choices, distinguishing benefits from downsides. The manufacturing trends show increasing life quality of civil societies, say:

- Home manufacture, by means of spread out domestic and local textile and building jobs;
- Country produces, using husbandry and upbringing jobs, as diversified fonts of foodstuffs;
- Mass production, with economy of scale maximizing productivity with minimal item cost;
- Customers' satisfaction enabling economy of scope, optimising the return on investments;

- Ecology sustainability, with circular planning, aimed at sources' recovery and depollution.

This technical way has paradigmatic reference, in the manufacture modes, qualifying the following stages, which show work organisation methods. The hands-and-minds activity organisation is enabling technical feature, allowing the conventionally recognised technology innovations:

- The remote undertakings of garbed societies inhabiting dwellings and settlements;
- The systematic execution of manmade biology courses, for foodstuff multiplication;
- The effective control of activity programming, aimed at balanced unreservedness.

The clothing, agrarian and industrial revolutions typify the discovery of abilities, processes and methods, which widen the extant backdrops, adding artefacts, practices and efficacies. The usefulness of these extra facts tell that men apply creative changes to the environs: the acquired <knowledge> affects the sociability, but, also, supplies operation skills; the <evolution> potentials are galactic traits, as such, to be included in the cosmic rationality or in the godly wisdom and, possibly, shared by men as creative intelligence via our <knowledge>. These hints seem agree with technology revolutions caused by inner or upper motives: if true, the human interposition is possibility, but civilisation or progress-like occurrences are natural or holy facts with a priori origins. The technical progress via new artefacts, practices and efficacies is complex outcome of training, notions and awareness, entailing matter and information, with tangible and abstract fallouts, written in stars in stars, not created by men. The all seem to simple, to be true and search shall go on.

The managing robotics of step 4 and 5 extends the progress myth, as if the artificial intelligence makes total recovery possible. The progress myth is belief, telling that our intellect permits safe growth (rejecting all snags): the physical reality knows the entropy; the bounded earth has source and disposal limits. The progress we know is parable, lately precluded by the ecology verdicts. However, at galactic range, fitting recovery strategies may exist, potentially, transferred to robot accomplishments. Today, the sustainability questions become impending, once acknowledging that resource exhaustion and surrounds pollution are critical concern of our planet. The sustainability requires circular supply chains: the forward logistics have complete backward logistics, so that the earth keeps steady trends, without global lessening or warming drifts. Our planer is non-isolated spot of the universe, with energy exchanges (sun's radiations, etc.), having undergone climate's variations (glacial eves, etc.), before reaching men's friendly weather conditions. The earth/universe links are galactic data not modified by men; effective retrieval has connectible reliability.

SUSTAINABILITY: MANAGING ROBOTUC

Our earth centred analyses look at the ecology warnings, as non-removable onuses, with accumulation of the damages caused by men. The eco-sustainability quiz has, possibly, answers if differently approached, looking at the disparity between the acknowledged sentences:

- The earth is negligible detail of the universe and shall share the courses of the all;
- The galactic truths, on what observed, credibly enjoy rationality or wisdom traits.

The latter verdict finds proof from the physical laws levelheadedness, discovered by human intelligence;

the fact, as already done, advises looking at inner/upper origins for intellection and reasoning, believed projection of inner/upper extant universal features. The opposite reading leads to puzzling views, in which «intelligence» keeps local contingency, starting cognizance and creativity chances, before non-present in the wholly passive tangible reality. The readings oppose the thrifty earth, to alternate situations:

- Existence of total galactic information, denting the cosmic rationality or godly wisdom;
- Spot starting of contingent cognition/intellection, with creative/innovation capabilities.

The contingent situation does not enjoy rational/wise backdrop; the physical laws coherence is surprise or optimistic guess on limited horizons. However, the causal inferences, if steady events, can suggest theories with acknowledged reliability. The eco-sustainability puzzle, then, resorts to total truths, once supported by inner/upper reasons; it may safely progress, if we devise causal forecasts on acknowledged passing models, with safe upgrading. The analyses, always, resort to manufacture and relational modes, readily conjecturing plausible theories for manmade improvements, keeping linked typifying social changes:

- Human marginal presence of scattered familiar groups and nomadic tribes, with loose rules;
- Spit-sovereign nation-states, competing on earth for leadership, with agreed treaties;
- Uniform global village, under automatic exhaustion and pollution ecologic constraints.

The «widened teamwork» is puzzling model, enabling automatic (rather than enforced) cooperation, with altruism at «global village» range. The last surprising forecast is artificial intelligence arrangement, started

without public formats, when the humankind keeps trifling ethnic attendance. The collective removes local sovereignty, by spread altruism; the all individuals need fulfilling ecology obligations: the contrasting shared law claims are garbage or nonsense, when opposing human will, to natural courses. The political setups are routine practices, basically, individual and collective aimed at life qualities by civic virtue:

- The informal (friendly) sphere allows understanding and interacting with civil traits;
- The indorsed legality sphere sustains transactions, keeping right business dealings;
- The accepted authority sphere brings in the operation autonomy of the local rallies.

The conventional widened teamwork allots personal behaviours and interpersonal rules: settled contracts state the legality; the agreed programmes transfer into collective robot codes. The discernibility of private or public conventions provide ratifications and warranties, which assert that passed laws have consistent worthiness and ruling leaders enjoy recognised power. The sated result has three-layer architecture:

- Marginal autonomy: with establishment of peoples, performing aware happenings;
- Split-sovereignty: with shaping of rival nation-state, fighting for profitable headship;
- Social liability: with globalising self-rule, exploiting resources by shared conventions.

The layered architecture starts from human practical autonomy; the local consciousness, given by native idioms, leads to nation states, with presumed autonomous sovereignty; with globalising connections, the cross-responsible planning and accountable operations show collective liability and imply essential rescue with consciousness and

ingenuity moved at programmed settings. The <intelligence> means creative fancy, consistent with roaming tribes and confined nations; with earth overload, the folk interactions affect each other and the offsets cumulate, with source lessening and garbage growth. The creative <intelligence> has to switch to recovery operations for the extant peoples, without exceptions: the forward transformations to progress needs balancing backward makeovers, aiming at safe circular economy objectives. The widened teamwork moves the technicalities, from the individual, to the collective liability. The ecology restraints are shared obligation, because each one deserves complete protection and accepts the said engagement, with fair altruism. Once the commitment agreed, the restraints can have robotic planning, moving compulsory eco-sustainability collective accomplishments, along already outlined practices, [41-66]. In the listed studies, the uniform society and altruism of the <global village> happen to be hard to justify; the alternate managing robotic implicit options are plausible guess, hereafter mentioned.

RECOVERY QUEST: THE ECO-SUSTAINABILITY QUIZ

The regaining of safe steadiness, necessarily, requires getting new resources for our planet, discarding the unsafe litter. The earth is not isolated system: it undergoes continuous exchanges with the outer space and further interconnections are possible by interplanetary or interstellar robots' enterprises. These technology innovations, actually, combine into complex updating, already, globalism breakthrough, involving:

- Global communication, based on computer networking and worldwide web facilities;
- Global dealing, enjoying worldwide transactions and active multinational enterprises;

- Global prospection, looking after marine fish-farming and deep-sea resource mining;
- Global recovery, with ideal (entropy-free) circular economy (no-exhaustion/pollution).

The example global occurrences are modified prospects of the progress myth, sharply stopped by ecology. The industry step 5 shows technical continuity and social breakthrough, from the earlier serial, to more wily checks. The robot personify the switch in the work schedule goals, joining minds to hands:

- The zeal limits the organisation to efficiently perform the exact assigned schedules;
- The clever planning implies checking buyers' whims to adapt, on line, the delivering.

This is central fact of the industrial revolution and starting event of robotic: diligence and intelligence are essential execution qualities; they are present in men and in synthetic hands/minds, to provide the timely useful dexterity and dispensation skills, leading to appropriate artefacts. The diligence moves off process the suitably fixed decisions the intelligence manages the schedules, timely adapted to new goals. Indeed:

- Off-line decision logic, fixed by scientific criteria, plus on-process diligent fulfilment;
- On-line planned selection by robotic equipment, plus able check of the effecting kit.

The men make possible purposeful changes by design and effecting, as such needed to create progress. The same schedules, done by synthetic hands/minds (robots) grant equal outcomes: artificial intelligence, notably, assures proficient reasoning and decisions. Today, the ecology sustainability asks essential duties, forcibly performed by men or robots: the accomplishments are necessary, not the actual actors. The robots replace men, first, <industry 3>, in

manufacture; then, <industry 4>, they expand over all engineering tasks, to generic administrative, business and service jobs; finally, <industry 5>, they swell covering all reclamation procedures. The diligent/intelligent switch allows conscious assessments, giving evidence of the reduction and adulteration trends. The appraisals provides the data on the needed worldwide rebuilding plans. These have global relevance, entailing all-inclusive restorations, to have compulsory planetary accomplishments. More than private duty, the all leads to public obligations covering every earth's inhabitants, due to:

- The existence of natural constraints, already stated at the stellar and planetary levels;
- The assignment of the specific earthy conditions, as for source and space availability;
- The agreed instructions enacted by the community, for the right everyone's conduct.

The people behavioural regulation, by relational modes, follows layered controls: civic manner, private fairness and public legality; they are education results, varying settled among sociable and formal rules. In all cases, we might use implicit structures, transferred at the collective rank (and, possibly, assigned at the robotic programming), or we employ explicit formats, at the personal rank (and appearing in enacted laws). The implicit restraints are common to the entire <global village>: these can properly widen, covering the full robot-allotted recovery duties; the explicit constraints have to aim at widened teamwork, purposely giving altruism principles, because the safe survival is attainment, if shared by all world citizens. The salvage is, actually, complex accomplishment, with technology and political changeovers:

- On earth creation of circular economy, with the off-setting of depletion/pollution outcomes;

- Worldwide uniformity of the citizens' behaviours, without ecology-unsafe personal benefits.

The ecology sustainability exploits relevant technical novelties; moreover, it implies considerable alterations in the social setups, because the earlier autonomy of the human activity from the natural surrounds shows to be whole blunder. The dependence displays unwanted effects that destroy the headway benefits, by cumulated injuries. The damage unlawfulness authorises apt community actions, possibly moved in charge to robotic programmes, to follow automatically attainments.

ECOLOGY CATCHES: THE PROGRESS ENQUIRIES

The rescue mission starts limping castoffs and strewing habits; the retrieval objects, first, request extra duties (and added costs in virgin supply), since throwaways and messes turn into illegal acts. The lawfulness becomes intricate question, not linked to given nation states, but directly affecting everyone. The national biased legalities, indeed, favouring local citizens, denote dishonest practices and guilty profits, founded unlawful principles at the global village lever: the local autonomies are false and illicit, if leading to profits:

- The countries do not enjoy hierarchical headship and supervision, under godly grace kingships,
- The peoples do not have intrinsic governance setups, with natural legitimacy and leaderships;
- The citizens do not benefit of individual management by operational authenticity officialdom.

Without autonomy, the split-sovereign nation states are not self-sufficient; their independence is abusive, when it affects the safe survival of the overall humankind; the regularity of rival countries is passing option. The linked upper/inner backings are misleading signs: spiritual or cosmic truths need faith; democracy does not apply, lacking autonomous closed societies. The legality of single countries or, even or, even, majorities is abuse, because the instant decisions affect all future populations. The uniformity of the 'global village' is plausible setting, which allows unbiased social layouts, at widespread stability, notably, if safe steadiness is factually true. In the 'global village', the conduct is subject to ecology; the lack of disparities brings to top down arrangements with the appropriate altruism innovations:

- The technology innovation empowerment, by worldwide web, used by men or robots;
- The legality acts, using the relational modes to build structures, having uniform orders;
- The global constraints, since the ecology constraints affect the earth's current resources.

Up now, innovations aimed at inventions; in the future, they need looking at remediation, i.e., backward logistic duties, asked by forward cycles; the governance switches from .human autonomy, to ecology ruling. Wellness and affluence ask closed loop decisions, controlling source and waste suitability at global range of earthy inhabitants and including all recovery requests, following standard means, such as:

- The one-way update: changes directly link to altered downgrading with stabilising rescue;
- The automatic retrieval: recoups develop via planned instruction and training of citizens;



- The synthetic settings: variations add and programmes have inner/upper continuity tasks.

The retrieval programme has deterministic definitions, based on the each time planned forward planned transformations; the association of forward and backward schedules becomes automatic; its fulfilment can have properly assigned synthetic hands/mins' accomplishments, automatically fulfilling altruism duties. The programmes ought to follow standard features and a list of example hints follows hereafter:

- The even manufacture areas, developing many instances, unmanned factory included;
- The lifelong maintenance and management of delivered artefacts, by on-process acts;
- The continuous care and repair, with service coverage and repair executive handling;
- The logistic supervision, performing monitored overhaul, with sure peripheral bargain;
- The facility provision and regulation, with real-time supervision and practical controls;
- The utility distribution makeup, granting steady supply and enduring manoeuvre aids;
- The backward logistic, to fulfil circular schedule cycles, to zero litter and spoil planning.

The globalism breakthrough implies revising the relational layers, putting, at the third one, compulsory accomplishments, already established by the actually performed forward transformations; our decisional freedom has limitations, because the instant recovery depends on the selected headway. The progress can exploit the intelligence ingenuity and inventiveness. In genuine facts, we resort to artificial intelligence, as suitably programmed robots have in charge the compulsory recovery accomplishments. Their automatic completion becomes implicit task, by managing synthetic hands/minds, allocated to the

duties. The implied altruism becomes global village embedded, fulfilling ecology retrieval, even without direct citizens' will.

CONCLUSION

The survey conclusion aims at minimal prospects, with the creative intelligence, simply, development of the human mind, thus, the manufacture and relational modes, only, contingent inventions, without inner or upper backdrops. The cosmic rationality or godly wisdom are attractive hypotheses, which make sound the physical laws, from galactic cosmology, down to subatomic statistical mechanics. The detected derails have current acknowledgment as total truths, and the outcome is amazing, against the knowledge contingency. These trifling deductions allow, however, devising actual technical and political innovations: the issues are evident along the localism stages; they remain effective along the globalism ages, according to features, hereafter outlined.

The managing robots are 'industry 5' accomplishes, when programmed for 'circular ecology', balancing the unwanted nuisances, by implicit automatic counterweights. The full offsetting asks creative intelligence. The one promoting the civilization is human quality, denoting manufacture and relational modes; yet, the robots can do same raises by artificial intelligence, or, even, we may have faith that cosmic rationality or godly wisdom originates the human intelligence and it is the true cause of subsequent facts. The performed analyses do not exclude any propositions: limiting the focus on the contingent 'intelligence', even without total backdrops, prospects creative improvements, by, before non-existing services and artefacts:

- The collective breakthroughs are social novelties, carrying enhanced political value;



- The technology revolutions base on material transformations, with technical worth.

Both innovations have side effects in exhaustion and contamination. The backward logistic turns out to be essential, as compulsory completion of the forward transformations. The «industry 5» becomes necessity of the «global village», asking uniform lawfulness, without local differences:

- Globalism: the populations enjoy worldwide contacts/obligations, in crowded spaces;
- Sustainability: the controlled depletion and pollution need granting safe continuance.

The «industry 5» solution offers technical options, suggesting, moreover, relabel political chances, by aptly defining managing robot policies. The «nation-states» to «global village» switch deeply modifies civil habits, to manage the rescue obligations. The managing robots directly refer to each current forward action and assign the linked recovery duties. Globalising effects and sustainability tasks follow unified assessment; the robotic management, simply, means that that the overall acknowledgment is automatic, along with suited officially agreed recuperation figures. The civilisation continuance, thereafter, via managing robots, can be successful, if the circular processing achieves the convenient offsetting of the whole downgrading. The total lines show, perhaps, higher reliability, once trusted the suited faiths. The contingent line recurses to the human or artificial intelligence creativity, which allocates innovative ability, to transfer fitting sources, from the galactic backdrop, to our planet, without factually altering the universe steadiness.

The analyses on the managing robots allow completing some technicalities of the political setups. The on process data running provides process visibility and

awareness of the expected issues. The implicit effecting of automatic recapture of safe continuance distinguishes the current situations, correctly allocating profits and drawbacks. The robotic management has «global village» central programming, following agreed data on the followed forward and backward schedules, each time, selected. The visibility leads to verify if robotic creativity and aware plans maintain the civilisation. The acknowledgments aim at covering the contingent data in total information, basically, presuming the detection of true physical laws. These readings are, most of the times, implicit: the total worth of science and technology data is understood fact, giving fitting trust by models and simulations. The progress myth avails of such ideas, as if the choice of profits and progress and the avoidance of losses and regress are absolute chances, never modified in the course of the earth's events and transformations.

The technology innovative scenarios, invention of manmade garments and lodgings, discovery of biology-based al produces and unearthing of synthetic hands/minds agendas, are bewildering, compared to earlier trends and parallel habits. No other animals look after coats, explore husbandry courses or search robotic devices; the civilisation has safe bases on the listed inventions and discoveries and its sustainability finds right feet on next chances if managing robots develops, [67-76], also, if only aided by artificial intelligence. The accomplished investigations fancy optimistic conjectures: looking at the overall galactic ensemble, our certainties are defective and we cannot conclude about the steadiness of it; looking at the earth peculiarity of the human intelligence, the inferences of total cosmic rationality or of godly wisdom are plausible faiths. The outlined optimistic conjectures start on the «intelligence» anomaly, in which the act «to choose among, inter legere» happens

leading to new picks, thus, prospecting new solutions. The creativity is human skill, but the proficient programming of robots grants equivalent results by artificial intelligence. These robot plans can be circular economy embedded schedules, already included in the «global village» legality and not in the free availability of the earth inhabitants. The existence of such schedules denote optimism.

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