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MEMBERS AREA

‘RC DAILY DOSE’
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Passage – 1

Alchemy is the science by aid of which the chemical philosophers of medieval times attempted to transmute the baser metals into gold or silver. There is considerable divergence of opinion as to the etymology of the word, but it would seem to be derived from the Arabic al = the, and kimya = chemistry, which in turn derives from the late Greek chemica = chemistry, from chumeia = a mingling, or cheein, 'to pour out' or 'mix', Aryan root ghu, to pour, whence the word 'gush'. Mr. A. Wallis Budge in his "Egyptian Magic", however, states that it is possible that it may be derived from the Egyptian word Khemeia, that is to say 'the preparation of the black ore', or 'powder', which was regarded as the active principle in the transmutation of metals. To this name the Arabs affixed the article 'al', thus giving al-khemeia, or alchemy.

From an early period, the Egyptians possessed the reputation of being skilful workers in metals and, according to Greek writers, they were conversant with their transmutation, employing quicksilver in the process of separating gold and silver from the native matrix. The resulting oxide was supposed to possess marvellous powers, and it was thought that there resided within it individualities of the various metals, that in it their various substances were incorporated. This black powder was mystically identified with the underworld form of the god Osiris, and consequently was credited with magical properties. Thus there grew up in Egypt, the belief that magical powers existed in fluxes and alloys. Probably such a belief existed throughout Europe in connection with the bronze-working castes of its several races. It was probably in the Byzantium of the fourth century, however, that alchemical science received embryonic form. There is little doubt that Egyptian tradition, filtering through Alexandrian Hellenic sources was the foundation upon which the infant science was built, and this is borne out by the circumstance that the art was attributed to Hermes Trismegistus and supposed to be contained in its entirety in his works.

The Arabs, after their conquest of Egypt in the seventh century, carried on the researches of the Alexandrian school, and through their instrumentality, the art was brought to Morocco and thus, in the eighth century, to Spain, where it flourished exceedingly. Indeed, Spain from the ninth to the eleventh century became the repository of alchemic science, and the colleges of Seville, Cordova and Granada were the centers from which this science radiated throughout Europe.

The first practical alchemist may be said to have been the Arabian Geber, who flourished in 720-750 AD. From his "Summa Perfectionism", we may be justified in assuming that alchemical science was already matured in his day, and that he drew his inspirations from a still older unbroken line of adepts. He was followed by Avicenna, Mesna and Rhasis, and in France by Alain of Lisle, Arnold de Villanova and Jean de Meung, the troubadour; in England by Roger Bacon and in Spain itself by Raymond Lully. Later, in French alchemy, the most illustrious names are those of Flamel, and Bernard Trevisan after which the center of interest changes to Germany and in some measure to England, in which countries Paracelsus, Khunrath, Maier, Norton, Dalton, Charnock, and Fludd kept the alchemical flame burning brightly.

It is surprising how little alteration we find throughout the period between the seventh and the seventeenth centuries, the heyday of alchemy, in the theory and practice of the art. The same sentiments and processes are found expressed in the later alchemical authorities, as in the earliest, and a wonderful unanimity, as regards the basic canons of the great art, is evinced by the hermetic students of the time. On the introduction of chemistry as a practical art, alchemical science fell into destitute and disrepute, owing chiefly to the number of charlatans practicing it, and by the beginning of the eighteenth century, as a school, it may be said to have become defunct. Here and there, however, a solitary student of the art lingered, and that the science has to a great extent revived during modern times, although it had never been quite extinct.

The grand objectives of alchemy were (1) the discovery of a process by which the baser metals might be transmuted into gold or silver; (2) the discovery of an elixir by which life might be prolonged indefinitely; and there may be added (3), the manufacture of and artificial process of human life.

The first objective was to be achieved as follows: The transmutation of metals was to be accomplished by a powder, stone or elixir often called the Philosopher's Stone, the application of which would effect the transmutation of the baser metals into gold or silver, depending upon the length of time of its application. Basing their conclusions on a profound examination of natural processes and research into the secrets of nature, the alchemists arrived at the axiom that nature was divided philosophically into four principal regions, the dry, the moist, the warm, the cold, whence all that exists must be derived. Nature is also divisible into the male and the female. She is the divine breath, the central fire, invisible yet ever active, and is typified by sulphur, which is the mercury of the sages, which slowly fructifies under the genial warmth of nature.

The alchemist must be ingenuous, of a truthful disposition, and gifted with patience and prudence, following nature in every alchemical performance. He must recollect that like draws to like, and must know how to obtain the seed of metals, which is produced by the four elements through the will of the Supreme Being and the Imagination of Nature. We are told that the original matter of metals is double in its essence, being a dry heat combined with a warm moisture, and that air is water coagulated by fire, capable of producing a universal dissolvent. These terms the neophyte must be cautious of interpreting in their literal sense. Great confusion exists in alchemical nomenclature, and the gibberish employed by the scores of charlatans who in later times pretended to a knowledge of alchemical matters did not tend to make things any more clear. The beginner must also acquire a thorough knowledge of the manner in which metals grow in the bowels of the earth. These are engendered by sulphur, which is male, and mercury, which is female, and the crux of alchemy is to obtain their seed - a process which the alchemist philosophers have not described with any degree of clarity.

The physical theory of transmutation is based on the composite character of metals, and on the existence of a substance which, applied to matter, exalts and perfects it. This, Eugenius Philalethes and others call 'The Light'. The elements of all metals is similar, differing only in purity and proportion. The entire trend of the metallic kingdom is towards the natural manufacture of gold, and the production of the baser metals is only accidental as the result of an unfavorable environment. The Philosopher's Stone is the combination of the male and female seeds which beget gold. The composition of these is so veiled by symbolism as to make their identification a matter of impossibility. Waite, summarizing the alchemical process once the secret of the stone is unveiled, says: "Given the matter of the stone and also the necessary vessel, the process which must be then undertaken to accomplish the 'magnum opus' are described with moderate perpetuity. There is the calcination or purgation of the stone, in which kind is worked with kind for the space of a philosophical year. There is dissolution which prepares the way for congelation, and which is performed during the black state of the mysterious matter. It is accomplished by water which does not wet the hand. There is the separation of the subtle and the gross, which is to be performed by means of heat. In the conjunction which follows, the elements are duly and scrupulously combined. Putrefaction afterwards takes place.

"Then, in the subsequent congelation, the white colour appears, which is one of the signs of success. It becomes more pronounced in civation. In sublimation, the body is spiritualised, the spirit made corporeal, and again a more glittering whiteness is apparent. Fermentation afterwards fixes together the alchemical earth and water, and causes the mystic medicines to flow like wax. The matter is then augmented with the alchemical spirit of life, and the exaltation of the philosophic earth is accomplished by the natural rectification of its elements. When these processes have been successfully completed, the mystic stone will have passed through the chief stages characterized by different colours, black, white and red, after which it is capable of infinite multiplication, and when projected on mercury, it will absolutely transmute it, the resulting gold bearing every test. The base metals made use of must be purified to insure the success of the operation. The process for the manufacture of silver is essentially similar, but the resources of the matter are not carried to so high a degree.

According to the "Commentary on the Ancient War of the Knights" the transmutations performed by the perfect stone are so absolute that no trace remains of the original metal. It cannot, however, destroy gold, nor exalt it into a more perfect metallic substance; it, therefore, transmutes it into a medicine a thousand times superior to any virtues, which can be extracted from its vulgar state. This medicine becomes a most potent agent in the exaltation of base metals."

There are not wanting authorities who deny that the transmutations of metals was the grand object of alchemy, and who infer from the alchemical writings that the end of the art was the spiritual regeneration of man. Mrs. Atwood, author of "A Suggestive Inquiry into the Hermetic Mystery", and an American writer named Hitchcock are perhaps the chief protagonists of the belief that by spiritual processes akin to those of the chemical process of alchemy, the soul of man may be purified and exalted. But both commit the radical error of stating the alchemical writers did not aver that the transmutation of base metal into gold was their grand end. None of the passages they quote, is inconsistent with the physical object of alchemy, and in a work, "The Marrow of Alchemy", stated to be by Eugenius Philalethes, it is laid down that the real quest is for gold. It is constantly impressed upon the reader, however, in the perusal of esteemed alchemical works, that only those who are instructed by God can achieve the grand secret. Others, again, state that a tyro may possibly stumble upon it, but that unless he is guided by an adept, he has small chance of achieving the grand arcanum. It will be obvious to the tyro, however, that nothing can ever be achieved by trusting to the allegories of the adepts or the many charlatans who crowded the ranks of the art. Gold may be made, or it may not, but the truth or fallacy of the alchemical method lies with modern chemistry. The transcendental view of alchemy, however, is rapidly gaining ground, and probably originated in the comprehensive nature of Hermetic theory and the consciousness in the alchemical mind that what might with success be applied to nature could also be applied to man with similar results. Says Mr. Waite, "The gold of the philosopher is not a metal, on the other hand, man is a being who possesses within himself, the seeds of a perfection which he has never realized, and that he therefore corresponds to those metals which the Hermetic theory supposes to be capable of developing the latent possibilities in the subject man." At the same time, it must be admitted that the cryptic character of alchemical language was probably occasioned by a fear on the part of the alchemical mystic that he might lay himself open through his magical opinions to the rigors of the law.

That alchemy has been studied in modern times there can be no doubt. M. Figuier in his "L'Alchimie et les Alchimistes", dealing with the subject of modern alchemy, as expressed by the initiates of the first half of the nineteenth century, states that many French alchemists of his time regarded the discoveries of modern science as merely so many evidences of the truth of the doctrines they embraced. Throughout Europe, he says, the positive alchemical doctrine had many adherents at the end of the eighteenth century and the beginning of the nineteenth. Thus a "vast association of alchemists", founded in

Westphalia in 1790, continued to flourish in the year 1819, under the name of the "Hermetic Society". In 1837, an alchemist of Thuringia presented to the Societe Industrielle of Weimar, a tincture which he averred would effect metallic transmutation. About the same time several French journals announced a public course of lectures on hermetic philosophy by a professor of the University of Munich. He further states that many Honoverian and Bavarian families pursued in common, the search for the grand arcanum. Paris, however, was regarded as the alchemical Mecca. There dwelt many theoretical alchemists and "empirical adepts". The first pursued an arcanum through the medium of books, the other engaged in practical efforts to effect transmutation.

M. Figuier states that in the forties of the last century, he frequented the laboratory of a certain Monsieur L., which was the rendezvous of the alchemists in Paris. When Monsieur L's pupils left the laboratory for the day, the modern adepts dropped in one by one, and Figuier relates how deeply impressed he was by the appearance and costumes of these strange men. In the daytime, he frequently encountered them in the public libraries, buried in gigantic folios, and in the evening they might be seen pacing the solitary bridges with eyes fixed in vague contemplation upon the first pale stars of night. A long cloak usually covered the meager limbs, and their untrimmed beards and matted locks lent them a wild appearance. They walked with a solemn and measured gait, and used the figures of speech employed by the medieval illumines. Their expression was generally a mixture of the most ardent hope and fixed despair. Among the adepts who sought the laboratory of Monsieur L., Figuier remarked especially a young man, in whose habits and language he could find nothing in common with those of his strange companions. He confounded the wisdom of the alchemical adept with the tenets of the modern scientist in the most singular fashion, and meeting him one day at the gate of the Observatory, M. Figuier renewed the subject of their last discussion, deploring that "a man of his gifts could pursue the semblance of a chimera." Without replying, the young adept led him into the Observatory garden, and proceeded to reveal to him the mysteries of modern alchemical science.

The young man proceeded to fix a limit to the researches of the modern alchemists. Gold, he said, according to the ancient authors, has three distinct properties: (1) that of resolving the baser metals into itself, and interchanging and metamorphosing all metals into one another; (2) the curing of afflictions and the prolongation of life; (3), as a 'spiritus mundi' to bring mankind into rapport with the super mundane spheres. Modern alchemists, he continued, reject the greater part of these ideas, especially those connected with spiritual contact. The object of modern alchemy might be reduced to the search for a substance having the power to transform and transmute all other substances into one another – in short, to discover that medium so well known to the alchemists of old and lost to us. This was a perfectly feasible proposition. In the four principal substances of oxygen, hydrogen, carbon, and azote, we have the tetractus of Pythagoras and the tetragram of the Chaldeans and Egyptians. All the sixty elements are referable to these original four. The ancient alchemical theory established the fact that all the metals are the same in their composition, that all are formed from sulphur and mercury, and that the difference between them is according to the proportion of these substances in their composition. Further, all the products of minerals present in their composition complete identity with those substances most opposed to them. Thus fulminating acid contains precisely the same quantity of carbon, oxygen, and azote as cyanic acid, and "cyanhydric" acid does not differ from formate ammoniac. This new property of matter is known as "isomerism". M. Figuier's friend then proceeds to quote support of his thesis and operations and experiments of M. Dumas, a celebrated French savant, as is well known to those of Prout, and other English chemists of standing.

M. Dumas speaking before the British Association, had shown that when three simple bodies displayed great analogies in their properties, such as chlorine, bromide, and iodine, barium, strontium, and calcium, the chemical equivalent of the intermediate body is represented by the arithmetical mean between the equivalents of the other two. Such a statement well showed the isomerism of elementary substances, and proved that metals, however dissimilar in outward appearance, were composed of the same matter differently arranged and proportioned. This theory successfully demolishes the difficulties in the way of transmutation. Again, Dr. Prout says that the chemical equivalents of nearly all elemental substances are the multiples of one among them. Thus, if the equivalent of hydrogen be taken for the unit, the equivalent of every other substance will be an exact multiple of it - carbon will be represented by six, azote by fourteen, oxygen by sixteen, zinc by thirty-two. But, pointed out by M. Figuier's friend, if the molecular masses in compound substances have so simple a connection, does it not go to prove the all natural bodies are formed of one principle, differently arranged and condensed to produce all known compounds ?

If transmutation is thus theoretically possible, it only remains to show by practical experiment that it is strictly in accordance with chemical laws, and by no means inclines to the supernatural. At this juncture the young alchemist proceeded to liken the action of the Philosopher's Stone on metals to that of a ferment on organic matter. When metals are melted and brought to red heat, a molecular change may be produced analogous to fermentation. Just as sugar, under the influence of a ferment, may be changed into lactic acid without altering its constituents, so metals can alter their character under the influence of the Philosopher's Stone. The explanation of the latter case is no more difficult than that of the former. The ferment does not take any part in the chemical changes it brings about, and no satisfactory explanation of its effects can be found either in the laws of affinity or in the forces of electricity, light, or heat. As with the ferment, the required quantity of the Philosopher's Stone is infinitesimal. Medicine, philosophy, every modern science was at one time a source of such errors and extravagances as are associated with medieval alchemy, but they are not therefore neglected and despised. Wherefore, then, should we be blind to the scientific nature of transmutation ?

One of the foundations of alchemical theories was that minerals grew and developed in the earth, like organic things. It was always the aim of nature to produce gold, the most precious metal, but when circumstances were not favorable the baser metals resulted. The desire of the old alchemists was to surprise nature's secrets, and thus attain the ability to do in a short period what nature takes years to accomplish. Nevertheless, the medieval alchemists appreciated the value of time in their experiments as modern alchemists never do. M. Figuier's friend urged him not to condemn these exponents of the

hermetic philosophy for their metaphysical tendencies, for, he said, there are facts in our sciences that can only be explained in that light. If, for instance, copper be placed in air or water, there will be no result, but if a touch of some acid be added, it will oxidize. The explanation is that "the acid provokes oxidation of the metal because it has an affinity for the oxide which tends to form." - a material fact most metaphysical in its production, and only explicable thereby.

He concluded his argument with an appeal for tolerance towards the medieval alchemists, whose work is underrated because it is not properly understood.

1. *The main objective behind Alchemy was :*
 - (1) transmutation of baser metals into gold and silver
 - (2) discovery of an elixir for prolongation of life
 - (3) manufacture of artificial process of life
 - (4) All of the above
2. *Which is not desirable for a practitioner of Alchemy ?*
 - (1) An alchemist must be ingenuous
 - (2) He must be honest
 - (3) He must follow intuition in all performances
 - (4) He must be prudent and patient
3. *Which is true about the Alchemy movement ?*
 - (1) Spain was the main base of the movement from where it spread to the rest of Europe.
 - (2) The Arabs developed an interest in the science when coming in contact with the English.
 - (3) The movement underwent radical changes between the seventh and the seventeenth century.
 - (4) None of the above
4. *Which is an assumption about the science of Alchemy ?*
 - (1) All elements can be divided into the male, female and the neutral seeds
 - (2) All elements are essentially formed of oxygen, carbon, hydrogen and azote
 - (3) All non-metals are essentially made of mercury and sulphur
 - (4) Mercury is considered the male and sulphur the female seed
5. *What according to the passage has brought disrepute to the science of Alchemy ?*
 - (1) Lack of credible results
 - (2) Rise of chemistry
 - (3) Increase in charlatans practising science
 - (4) All of the above
6. *A suitable title for the passage would be :*
 - (1) Magic In The Medieval Ages.
 - (2) The Evolution Of Science.
 - (3) Alchemy : Science Not Art.
 - (4) The Evolution And History Of Alchemy.
7. *The Philosopher's stone detailed in the passage is :*
 - (1) is a powder used for exaltation of base metals into Gold.
 - (2) is made of mercury.
 - (3) is used by philosophers to prophesize.
 - (4) is a secret stone used to convert Gold to other elements.
8. *According to alchemical theory, the baser metals are :*
 - (1) derivatives of Gold and Silver.
 - (2) resultants derived when conditions were unfavourable for the creation of Gold.
 - (3) automatically transmuted to Gold.
 - (4) None of the above.
9. *The transcendental view of Alchemy is essentially :*
 - (1) the application of Hermetic theory to man.
 - (2) the fact that Gold can't be synthesized through transmutation.
 - (3) the theory that man is analogous to gold.
 - (4) None of the above.
10. *Transmutations can :*
 - (1) destroy gold.
 - (2) exalt gold to a higher metal.
 - (3) turn gold into a stone for exalting baser metals.
 - (4) None of the above.

Passage – 2

Act I, Scene I (The Garden of Eden) -- Period: Dawn of Mankind

Enter Eve, Serpent

Eve: Now is the winter of our discontent.

Serpent: Discontent, Eve? Try this apple. It'll change your life. (Eve eats apple).

Enter Adam, singing.

Eve: Stop singing and eat this apple. It'll open your eyes.

(Poor Adam eats apple, realises suddenly that he's naked, and also feels afraid.)

Enter God .

God: Adam, wherefore art thou Adam ?

Adam: Here God, I was afraid because I'm naked.

God: How did you know you were naked ? You have eaten from the tree of knowledge. I forbade you to do that.

God (aside): The status quo has changed. Behold the man is become as one of us.

God: Away with you. You're banished from the garden of Eden. Never darken its lawns again.

Result : Adam, Eve and 6 billion descendants banished from Paradise.

Act II, Scene II (General Motors HQ) -- Period: Dawn of M.B.O. 1946 A.D.

Enter Peter F. Drucker, Alfred P. Sloan

Drucker: Mr. Sloan, this is the report on GM and its methods. While the methods were good once upon a time, currently they're outdated. Productivity is steadily dropping. It's now below WW-II levels. Workers have to be considered as partners... change your methods, change your attitudes, change the way a car is made, change the way it is sold, change your perspective... change ... change...change.

Sloan (wrathful): Serpent! You seek to change my methods? These methods have been in operation since 1922 and have made us what we are. You seek to change them? Change the status quo? Away with you. You're banished from GM. Never darken its doors again.

Result : Drucker banished from GM for 40 years.

Different epochs, same story, same result. Have things changed so little since the days of Adam and Eve then?

The garden of Eden parable illustrates almost the entire story of change. Change agents (Eve, Drucker) seek change for different reasons: Eve because she's bored and curious, and Drucker because he has a vision for the future. They both run into opposition from the established order (God and Sloan). God resists because his position has been threatened (man has become one of us) and Sloan resists because Drucker wants to change his (Sloan's) ideas.

Adam exemplifies what we go through when we undergo change: an increase in knowledge, but accompanied by feelings of vulnerability (nakedness) and anxiety as well as retribution from those who oppose change. Throughout history and across cultures, some people have sought change while others have resisted it. Both, the seeking of change and the resistance to it, are therefore perhaps inherent in human behaviour. From an ethological and anthropological perspective, any behaviour that is widespread and consistent across time and culture, has to have survival value. So how do both change and resistance have survival value? Let's take Resistance first. Prehistoric man was a weak and ineffective creature whose only means of survival was in staying put with the rest of the tribe. There was not much scope for individuality. Survival was paramount and lay in conformity. When every day is a battle for survival, you don't experiment much if you've found something that works and keeps you alive.

As Nigel Nicholson says in "How Hardwired is Human Behavior", "ancient hunter-gatherers living a hand-to-mouth existence may not have been great risk takers. But that did not mean they did not explore or act curious about their world. We see the same kind of behaviour in children. When they are securely attached - confident that an adult nearby will prevent any harm to them, they can be quite adventurous. But when danger looms, this adventurousness evaporates." When a sabre-toothed tiger attacked, prehistoric man must have scrambled frantically trying to avoid, or to beat the predator away. The use of sticks and stones as weapons may have developed as a result of this scramble. Prehistoric man therefore, may have alternated from survival through avoiding risk, and survival through furious battle - through taking risks and changing the rules.

The real tests for change, however, may have come when natural disasters like drought, flood and earthquakes threatened. The conflict then could have arisen between those who wanted to stay and endure, and those who wanted to leave and attempt a new life in a different place. In some cases, status quo may have meant survival and in some cases, change may have meant survival. Genes from both survivors may have come down to us. Genetically, therefore, we may be programmed to both seek change and resist it. On the ubiquitous bell curve, Around 15 per cent of any population constantly seeks change and around 15 per cent constantly resists it. The remaining 70 per cent goes towards change when it clearly benefits them and resists change when it does not directly benefit them. Incidentally, perhaps it is no coincidence that the country most supportive of risk-taking and change - the US - is mostly populated by change-seekers: immigrants and their descendants. Most management gurus opine that change is usually, if not always, good; and resistance is always bad. An organism should strive to keep changing; Resistance is akin to stagnation and stagnation is akin to death. Everybody therefore should seek change.

They may be right, but let's examine resistance in more depth. First, your doctor may not agree with the management gurus. As far as he's concerned, it's your resistance that keeps you alive and keeps the change agents (viruses) at bay. Your internist will tell you that we, as organisms, seek homeostasis - equilibrium. We need to maintain a constant temperature. We need to resist environmental fluctuations. Our entire body is programmed towards maintaining steady heart-beat, respiration, and sleep patterns. A mental health professional too will tell you that mental health depends on equilibrium - homeostasis. When there's no homeostasis, wild mood fluctuations called Manic-Depressive illness take place. In society, stability has always been praised. 'steady as a rock' is a compliment; while 'changeable as the seasons' is a censure. A man who is predictable is liked because he makes us feel secure. "He's solid. You can trust him" and "You can set your watch by him" are traits seen as desirable. On the other hand, a person whose ideas keep changing is called 'inconsistent' and one whose moods keep changing is called 'moody'. Both traits are considered undesirable.

Yet, when this very solidity and dependability in a person make him resist change, we call him an anachronism, a road-block, a resister. We forget that such people are the bedrock of society. The change agent comes, makes the changes, and goes his way. It is this ordinary plodder who, when he can, internalises those changes, resets his internal mechanism, and gives to the new change a solidity and stability it so badly needs. In time, because of his internalisation of it, the once new change becomes the established order... and the world moves forward a notch.

If there was only change, there would be no continuity. Divorce rates would be as high as 100 per cent, as would be employee turnover. Industries would not be built up. No consolidation would take place. The world would be chaotic. What prevents all this is another face of resistance that we call habit. We get used to something and are loath to change it. We get habituated to getting up at a certain time in the morning, performing our toilet in a certain way, using a particular brand of toothpaste, eating a certain kind of breakfast, and going off to work at a certain time. Our entire day is determined by habit. Incidentally, it is our habits that create 'brand loyalty', a form of resistance that management gurus and corporations pray for every day.

Habit frees us from the need to think through things. It saves time and the effort of decision making. If we had to think about every action and choose the best way of doing it every single time, we'd have no time left for productive work, for leisure, or for any planning of our activities. Our entire day would be occupied in our own physiological tasks. William James, in his 1890 classic 'The Principles of Psychology' says, "Habit is the enormous fly-wheel of society; its most precious conservative agent. It alone prevents the hardest and most repulsive walks of life from being deserted by those brought up to tread therein." Resistance to change, therefore, may not entirely be the black sheep it's made out to be. One face of it -habit-keeps the wheels of society well-oiled. And another face of it-brand loyalty-keeps the bottomlines of corporations well in the black. Strangely, resistance to change also helps create a new order. If the Jews had not resisted Christ, Christianity may never have come about.

Jesus would have been just another Jewish prophet. If orthodox Hinduism had not resisted Buddha, Buddhism may never have come about. If the Church had not resisted Martin Luther, Protestantism may never have come about - and it is the Protestant Ethic that has arguably had the greatest influence on modern technological progress. Take politics. The American revolution came about because Britain resisted the reasonable demands of the colonials. The Quit India movement gathered steam because Britain resisted the demands of the Indians for change. Resistance often spurs the change agent to more radicalism, greater creativity, further refinement, and very often, the new product/system is better, more polished and often completely different from what was originally conceived. Also, very often, the resistor finds that he has to undergo far more changes than those who don't resist change. The Jews resisted the Romanisation of Israel and they had to undergo the Diaspora. The Parsis resisted the Islamisation of Persia and they had to move to India. Very often, in corporations, something similar happens. The person who resists change the hardest, finds himself in a new job the soonest.

Organisations resist change because certain methods may have made it successful. Repeating them may have made it even more successful. This reinforces the belief in the legitimacy of its methods - it worked once, it'll work again... even when the external situation may have changed. Computerisation makes the theory Y style of management easier. Unfortunately, it also lends itself very well to the theory X manager. Consider the following extract from India Today "...the Chief Minister was accused of trying to centralise authority by developing a sophisticated information gathering system and keeping everyone - cabinet colleagues, MLAs and officials - on a tight leash..." The CM in question? The networked Chandrababu Naidu.

It is this facet of computerisation that is most resisted: the fact that computers function as the Panopticon - a control system in the form of continuous, one-way surveillance. According to Michel Foucault (Discipline & Punish - The birth of the prison), "...the Panopticon functions to induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power... power to be effective, should be continuous, visible and unverifiable..."

Most religions use the Panopticon concept in the form of an all-seeing, all-powerful God. Shops use the Panopticon in the form of closed-circuit cameras to check shop-lifting. In organisations, Accounting and Finance function as the Panopticon. Incidentally, these are the first departments to be computerised in any organisation. To illustrate how Accounting functions as the Panopticon, let's take a leaf from the ultimate 'controls' man - Harold Geneen of ITT. In his book 'Managing', Geneen writes "...I insisted upon unshakeable facts and cross-examined the men who brought me those facts ... suppose on going through his numbers I came across the number 4 (\$ million); breaking down that 4, I may find it represents not 2+2, but +12 and -8. I focus on the -8 and find that consists of +5 and -13. I delve into the -13 and find it represents losses on selling out-dated products. I stop production - save that loss of 13. Added to the bottom-line, the +4 rises to +17 : a

healthy gain... Some men could not abide what they considered an attack on their abilities and left the company. But most men recognised that all the monitoring of their activities was for their benefit..." In the words of one ITT manager, however, "You'd realise that being a manager at ITT was like living in a room with a closed circuit TV and a bug up your backside".

Cut to Chandrababu Naidu. If computerisation helps him to dig like Harold Geneen, it's not surprising his bureaucrats resent computerisation - The ultimate Panopticon. We seek change to either move towards a desired situation, or to escape from an aversive situation. Change is made up of two components (1) Growth, and (2) Change without growth. All growth involves change. But all change does not necessarily involve growth. The seeking of change may be either a hope for the future or an escape from the present. The result of change may lie either in the area change without growth or in the area growth. We cannot predict where, and there lies the element of risk. If we change, we may either a) grow, b) be worse off or, c) stagnate A person seeking change in order to escape from the present situation, may not be too motivated to risk change unless the present situation is so unpleasant/aversive that any change would be for the better. Also, if he moves, he will move only enough to get out of the immediate aversive situation.

On the other hand, if he is motivated to change by a hope for the future, he is more likely to take risks. His vision sustains him. Most entrepreneurs are motivated by a hope for the future and this hope sustains them in the face of adversity. What determines who seeks change and who resists it?

The need for perfection could perhaps make one person seek change, and the need for stability could make another resist it. An unstable, traumatic childhood involving perhaps the loss of a parent, or severe economic deprivation could make a person resistant to change through anxiety. Similarly, a secure childhood could make one more adventurous and risk-seeking.

11. *The dramatic dialogues at the start of the passage indicate :*

- (1) People who resist change are zombies.
- (2) There are some who seek change and there are those who resist it.
- (3) People who resist change are better off than those who seek change.
- (4) None of the above.

12. *Select a suitable title for the passage.*

- (1) Dynamics of change and resistance.
- (2) For progress change.
- (3) Resisting change.
- (4) How change beats resistance !

13. *According to the passage, which of these is correct ?*

- (1) We resist out of habit.
- (2) America is a nation with a large population of change seekers.
- (3) There are no genetic underpinnings of change and resistance.
- (4) All of the above.

14. *Arguments in favour of resistance to change preclude :*

- (1) It is approved by society as it is indicative of consistency.
- (2) It furthers the concept of continuity.
- (3) It wastes time and effort through "habits".
- (4) All of the above.

15. *Computerization is faced with resistance because :*

- (1) most bureaucrats and top management are computer illiterates.
- (2) the technology overwhelms people and reduces efficiency.
- (3) the technology establishes a direct control and surveillance system.
- (4) None of the above.

16. *Resistance to change helps :*

- (1) society through "habits".
- (2) corporations through "brand loyalty".
- (3) development of new orders and religions.
- (4) All of the above.

17. *People seek change :*

- (1) to satiate their need for perfection.
- (2) to grow.
- (3) to escape from adverse situations.
- (4) All of the above.

18. *Habits, help in :*

- (1) resisting change.
- (2) avoiding unnecessary wastage of time.
- (3) keeping the wheels of society well oiled.
- (4) All of the above.

19. *The following can be conclusively said about the genetic makeup of change and resistance.*
- (1) Humans are genetically programmed to favour change and discard resistance.
 - (2) Humans are genetically programmed to favour resistance and discard change.
 - (3) Humans are genetically programmed to favour both resistance and change simultaneously.
 - (4) Humans may seek change or resist it as and when necessary.
20. *What brought resentment to Harold Geneen's attempts at enhancing effectiveness at ITT ?*
- (1) Employees felt that their privacy was being invaded.
 - (2) Close scrutiny made employees insecure.
 - (3) Employees felt that controls were a hindrance and not facilitators towards achieving organisational objectives.
 - (4) None of the above.

Detailed Solutions

1. **Ans.(4).** Each of the options (1) (2) and (3) are present of the passage. Hence they are all in place. However, option (4), their combination, is the perfect pick.
2. **Ans.(3).** The eighth paragraph states that an alchemist is required to follow nature in all his performances and not his intuition. Option (3) goes against this and is the option sought. The remaining options are in place, though not sought.
3. **Ans.(1).** The third paragraph mentions and validates option (1). Option (2) is wrong, for the third paragraph states that the Arabs learnt alchemy from the Egyptians. The fifth paragraph refutes option (3), in saying that throughout the period between the seventh and seventeenth century, little change was seen in the theory and practice of alchemy.
4. **Ans.(2).** Option (2) is the appropriate one. The fifteenth paragraph states and upholds the option. Option (1) is incorrect, as all elements are divided into the male seed, and female seed, according to paragraph 7. Paragraph 8 refutes option (4) by having its opposite stated. Option (3) is negated by paragraph 15, where it is stated that all metals are formed from mercury and sulphur.
5. **Ans.(3).** The fifth paragraph states that the science of Alchemy learned disrepute due to the charlatans practicing it. Option (3) best goes along this and is the sought one. The remaining options are incorrect.
6. **Ans.(4).** The title of the passage should be comprehensive. It should take almost every paragraph in its fold. Option (4) best represents this and is the apt title for the passage. Option (3) will be very restrictive, as no such argument is attempted at, in the passage.
7. **Ans.(1).** The seventh paragraph comes out with the description of Philosopher Stone as a powder used for exalting base metals into gold. Option (1) well represents this. The remaining options are not correct.
8. **Ans.(2).** The last paragraph states and upholds option (2). Options (1) and (3) are negated in the same paragraph.
9. **Ans.(1).** The twelfth paragraph, on comprehending, would validate option (1) and negate options (2) and (3).
10. **Ans.(3).** The eleventh paragraph validates option (3). The remaining options are not correct.
11. **Ans.(2).** Option (2) is the one which can be deduced from the passage. The first paragraph also hints on the same.
12. **Ans.(1).** Option (1) is the appropriate title for the passage. The author makes an unaffected study of both change and resistance in the passage. Options (2) and (4) are incorrect, while option (3) is misleading. The author only attempts a study of change and resistance.
13. **Ans.(2).** Option (2) alone is correct. We do not resist out of habit. But we have habits that get affected if we change and hence we resist. Option (1) is incorrect. It would have been correct if the option were to be worded, 'we resist to maintain our habits' or 'we resist to preserve old habits'. Option (3) is incorrect, as the passage has explicitly stated that there are genetic linkages to change and resistance.
14. **Ans.(3).** The word to be stressed is 'preclude'. Option (3) is sought as something that 'wastes' cannot lead to a favourable argument. The remaining options are not sought.
15. **Ans.(3).** The latter half of the passage implies option (3). The remaining options (1) and (2) are not correct.
16. **Ans.(4).** Each of the options (1), (2) and (3) find a mention in the passage. They are all sought. However, option (4), a combination of them, is the ideal one.
17. **Ans.(4).** All the three options (1), (2) and (3) are mentioned in the last three paragraphs of the passage. Hence option (4), their combination, is the best one.
18. **Ans.(4).** All the three options (1), (2) and (3) are mentioned in the passage. Hence option (4), their combination, is the best one.
19. **Ans.(4).** The ninth paragraph implies option (4) as the appropriate one. The remaining options are not proper conclusions.
20. **Ans.(2).** Option (2) could be the best conclusion drawn on closely scrutinizing the observations made by the employee of ITT. The remaining options are incorrect.

Answer Keys

11.(2)	12.(2)	13.(2)	14.(3)	15.(3)	16.(4)	17.(4)	18.(4)	19.(4)	20.(2)
1.(4)	2.(3)	3.(1)	4.(2)	5.(3)	6.(4)	7.(1)	8.(2)	9.(1)	10.(3)