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BY

SPONGE-GRAFTING.

(Whitney Memorial Prize Essay.)

CORRESPONDENCE.

READ BEFORE

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REPRODUCTION OF TISSUE BY SPONGE GRAFTING.

In the whole history of surgery there is no method of so much value and so little understood and practiced as that which has been called sponge grafting. Like most of the knowledge of principles and modes of practice in our specialty, it grew out of the misfortunes arising from traumatic or functional lesion.

The first use made of sponge grafting, in a crude way, was by obstetricians to fill the gap of cervical fissure of the uterus, resulting from violent and tedious labor.

I remember the discussions as to what became of the sponge. In one case of a very nervous woman, then called "hysterical," it was questioned whether she did not purposely remove the sponge, although she stoutly maintained the contrary. The cases submitted to this treatment did so well that this method was kept secret among a few for years. At that time, a solution of bi-chloride of mercury in water, alone or with sal ammoniac, was the external remedy used for scabies (itch).

Dr. William Woodruff, of Meadville, Pa., at the suggestion of a pupil then studying with him, wrung out a sponge in this solution, and used it in a badly torn cervix uteri following labor, which healed so kindly as to induce him to adopt it in the general treatment of these lesions.

The tediousness of the drainage method of healing large loss of tissue by fibrous tents, rubber tubes, or horse hair or other setons, to induce granulation, is greatly abridged by the use of the sponge graft in place of the tent, as the latter must be removed before the wound can be completely closed by the new growth. Efforts to assist nature in healing wounds and in reproduction of lost tissues from traumatic or from functional lesion, had been so various, bungling and inhuman, that it is no wonder that a mere expectant course long held dominion in the annals of surgery. From the abhorrent use in surgery of the actual cautery in the shape of boiling oil, into which the bleeding stump was plunged, red hot irons and embers applied to bleeding wounds, and the potential cautery in the shape of the strongest alkalies and acids to arrest hemorrhage, the wait-and-watch treatment was

established. The lack of any just apprehension of the process of inflammation permitted the introduction of "irrigation" and "drainage" of wounds and abscesses as helps to "granulation," as healing of suppurating tissue was then called.

Healing by first intention has always been regarded with high favor. Every method and management conducive to this form of healing must be of the highest importance. Transplanting bits of skin and epithelial tissue led to such kindly results as to suggest the introduction of some vehicle into which the blood plasm might be received and held in place, to form a clot in the gap of the wound, to be metamorphosed into the scar tissue, taking the place of the lost substance. Many forms of animal sutures and of flesh tents were resorted to, especially fibrous tissue, in the shape of tendons.

At length sterilized tents were introduced, which were gradually extruded as the new formations progressed in the depths of the wound, and had to be cut off from time to time, until at last a mere shred remained in the pit left at the site of the former wound tract. Sterilization is now known as "Listerism," and is a great step in advance of the old filthy method of uncleanly carelessness.

The accounts of chicken's flesh and other forms of non-human animal flesh being used to fill gaps of lost tissue, may be dismissed with the verdict of "not proven."

The accounts of the use of sterilized sponge on the other side of the Atlantic led me to try the method in my own practice. The results have been so favorable as to induce me to write this paper, with the hope of having my brethren become partakers of the benefits of this simple and beneficent treatment. Take a case where a portion of the flesh has been quite removed by the bite of a dog, the cut of a knife, buzz saw, or other free cutting instrument. It is only necessary to stanch the bleeding, and fit a bit of sterilized sponge of the size and shape of the lost flesh, and to cover it with some impervious dressing of oiled silk, sheet rubber, court plaster, gold beater's skin, husband's plaster, or such like material, over which a light support without pressure should be secured, to keep the exudate from escaping too freely by blood pressure.

When this is done in a healthy subject, we may look for union by first intention, without one drop of pus or deteriorated product of the albuminoid clot which fills the cavity, and out of which the new growth of tissue comes. Destruction of all disease germs which adhere to the dressings constitutes the sterilization, or "Listerism," which proves so conducive to healing by first intention.

A large list of germicides is at our command, which are competent to effect sterilization. The chief one, and leading the list, is a solution of bichloride of mercury, of from one in five hundred to one in a thousand parts of water.

Sponge grafts conserve the time and energy of the healing process. The former manner of determining the point at which to cease dressing was to place the finger upon the new growth, and if the plasm broke short without adhering to the finger and forming a more or less tenacious rope, which broke as the finger was carried away farther and farther, it was deemed necessary to continue stimulating dressings; but if the rugæ of the finger left their imprint upon the jelly-like mass, closing the wound, it was deemed better to protect it from outward disturbance by a simple non-irritative dressing. If the plasm were so watery as not to rope at all, dressing with a coagulant was advisable.

With the old training to guide us, and the present better understanding of the character and styles of the inflammatory process, we are more able to discriminate the indications of favorable progress and unfavorable regress of the healing process.

CORRESPONDENCE.

Definitions of the lexicons are capable only, of giving the phases of meaning already acquired of any word.

The agreement of things in the cosmos and in the progressive activities of mind is a sort of correspondence of which dictionaries take no cognizance and therefore requires a go-between to find recognition and establishment by successive advancements through the open door of communication between past, present and future.

This is the correspondence of progress in nature and in societies of every form.

Personal experience as correspondent of this society has taught me the unpleasant lesson that men are more bound up in the merely financial and material interests of life than in the acquisition of the knowledge of the underlying potentiality of moral and intellectual aspects of existence whereby the much coveted prize may be cleanly and innocently acquired.

In one word—men are more hungry for the outcome of knowledge, properly applied, than for the attainment of the sure grip upon the principles without which its legitimate attainment is impossible.

The commercial spirit is at the bottom of every government on this planet, notwithstanding the advancement in science and art.

The spirit of material riches holds dominion in Church, State and Society so firmly, that even the light and intelligence of the later decades of the 19th century yet deem the war element the legitimate arbiter of human interest!

To whom shall we look for the abolition or amelioration of this demoniacal domination?

Having in vain hoped for it by following priests, kings, and counsels, let us turn our regards to science and practice by throwing away subterfuge and assumption and embracing truth and righteousness in research and attainment of the knowledge that can only correspond with a true social order.

The correspondence between sun and earth is the first provable example of com-mu ni-ca-tion between giver and receiver of that which constitutes individual and associate modes of affection, intelligence and bodily conditioned correspondences.

The forms of being arising from the con-flu-ence of the radiancy from the sun and irradiancy or reflection of sun-impacts, from the earth and other planets, are examples of embodiments of types of functioning machines.

The correspondent is, then, the go-between that harmonizes differences, compromises difficulties and makes progress possible.

A machine without the impact of energy by which its purpose is effected and revealed, is like the stored energy in germs of typal construction awaiting the opportunity for the display of configuration of personal presence; the manner and habit of the storing of which being an important factor; and the immediate proof of classification and limitation in suns, systems, planets and inhabitants of planets, so that each elemental factor may (must?) contribute its modicum of energy to supplement and complete the grand diagram of radiancy and irradiancy in the harmonic whole.

This correspondence of affection (emotiveness), intelligence and force is the manifestation of the power which produces its embodiments and careers which are repeated in kind and degree, but never repeated *per se* in the measureless history of cosmical progression.

Each organism is the embodiment of possibilities of career equal to a plenum, awaiting the opportunity to display its characters of static, motic, stato-motic, and moto-static aspects of being as taught by Universology.

The unsatisfied desire for solar fulness in planetary voidness is the ever coiled-spring of the watch which keeps up the pull upon the power by which solar systems spin through space in cosmical order of compensations of correspondences and dependences !

Completeness of satisfactions of desire is death or extinction of the desire ; so also completeness of explanation of process and definition of words would end all further inquiry, and bring verbal correspondence to a stand-still of rigidity of significance.

To say that the vibratory signification in words in the course of progress in the history of language, was the record of the vibration in the earth's orbit depending upon the oblate form of its body, would be too sudden a burst of interpretation of radiancy to enable all to catch at once the relevancy of the correspondence.

Associations of prime elements produce and maintain the forms of bodies which have careers to run of formation, growth, decadence and disruption into lower forms or of reconstruction into higher and more multiple factors of more complicated examples of individual and associate functional activities.

Elements are of three classes. 1. Prime. 2. Proximate, and 3. Adventitious or variable elements, the second and third being aggregations and modifications of and dependent upon the first so that we can only grasp and prove the existence of the first by observing the behavior of the other two in the combinations and separations constituting mineral, vegetable, animal and human bodies.

The manner of storing the correspondent from the sun, known as radiance, in the time and in the direction of its impaction marks the stages and degrees of impregnation, gestation and parturition.

And also marks in the individual consciousness—inception, conception, perception and comprehension of the processes of production, growth, maintenance and dispersion into the occult magma from which they spring.

This is all plainly proven to the faithful observer of the planetary, mineral, vegetable, animal and human manifestations of career.

It will be sufficient to call attention to the protista, protophyta, protozoa and rhizopoda as they respond to the differing lengths of day and night, and more or less direct ray of sunlight in the rapidity and abundance or slowness and sparcity of their appearance in the places of their habitat.

And to those who are not miscroscopists we may refer to the differing length of the time for the hatching and development of fishes and

the batrachia which is shortened or lengthened in accordance to the want or abundance of light.

The egg of the common brook trout—Salmo-Fontinalis—may be hatched in forty days or prolonged to over two hundred days before breaking its chitinous shell by appreciation of differing degrees of light and heat.

The larva of the common frog—batrachia esculenta—remains in its larval state indefinitely when well fed in the dark.

Boys who are in the vicinity of ponds and sluggish streams know this from observations taken while exploring such places for fish.

The evolution of language starts with pantomine or mimicry and passes through sign or hieroglyph to speech and its record in writing.

This record is composed of words that are symbols of sounds, the modifications of which represent the meaning or signification of the simple and multiple forms of sound in speech.

So writing is the attempt to communicate to others the modes of consciousness through which the mind goes in the attainment and pronouncement of knowledge by the use of symbols of that activity.

The researches and records of the efforts to attain the science of perceptible nature made by the fathers; notably Epicurus, Leibnitz and Wolf, who recorded the first postulates in matter as "atoms," "monads" and "simple substances" in the order named, are so overlain by the circumstances of their enrivonment as to render their deductions uncertain, and not final, as true science always is.

The chief objection to the conclusions of our predecessors lies in their habit of taking intermediate steps, in the process of tracing the course of evolution, as final or really the first step in organization.

And we will find little help from this discovery if we do not clearly trace the line of the influx of the impacts of energy to a more tangible origin.

It is conceded that in every molecular and mass change there are at least two factors, viz: an active and a passive force, the compromise of which presents us with new molecular bodies or change of place in massive bodies.

All who claim but one form of solar impact must remain with intermediate origins of individual compound bodies, and differentiations of their parts and organs.

The more apparent radiance impact is from the sun, but there is a modified solar ray known as stellar radiance—the stars being distant suns of other solar systems whose rays impinge upon the earth in an attenuated form.

To understand the origin of new bodies, the behavior of active and passive forces must be observed and classified as alternately taking the lead as acto-passive and passo-active movements in construction and variations of functioning bodies.

It was said that the first provable example of correspondence occurred between the sun and the earth, and it was intimated that upon this depended all subsequent change upon the earth. This is true with a little emendation of statement.

Solar-glintings, stellar-glintings and their reciprocal retro-actions do complete the catalogue of construction and destruction of planetary activities.

A complete understanding of the functional history of the lower forms of animal bodies cannot be comprehended and accounted for without study of the higher and more completely differentiated parts by which the different functions are elaborated, viz: the respiratory, circulatory, digestory and sensory systems, whose summations appear to consciousness through the senses, more plainly in mass, than do the molecular actions that produce them and without which they cannot exist.

The sensory and motory functions are operated in two separate congeries of nerves known as ganglionic and cerebro-spinal systems.

The cerebro-spinal or voluntary system of nerves is the stored radiancy of stellar impact of energy.

The ganglionic, sympathetic or involuntary system of nerves is the product of solar impact of radiant energy.

The reciprocal activities of these two embodiments of radiant energy produce the respiratory, digestory, secretory, locomotory and conscious machinery of the human body.

A close and comprehensive reading of the foregoing reveals the necessity for deep and continuous study and observation in histology, anatomy and physiology to fit us for the responsibilities of practice.

The object of this paper is to induce conjoint efforts in professional attainment and progression. And to suggest the propriety of establishing a system of correspondence between dentists, especially in the societies from which this body derives its membership.

What would the effect be of embodying queries so as to secure replies from many investigators?

From which a syllabus of well arranged texts, embodying principles and practice might be selected, printed and placed in reach of all engaged in the duties of our profession?

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