XIX.

THE VALUE OF THE RESULTS IN ANACOUSIA DEPENDS ON THE LOCAL AND GENERAL CON- DITION OF THE PERSON WHO IS DEAF.*

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It would be unwise to make a prognosis on the possible degree of improvement of deafness and concomitant troubles from treatment by anacusia; too many factors influence the value of the results. The task of the physician having the case in charge consists in placing in action all the forces at his disposal to obtain the best result. With these in view, he will seek out the best method to pursue in order to obtain a clear idea of the functional symptoms, of the general health, and of the conditions of life of the patient. This secured, he will proceed with circumspection and with the most approved technical experience, and will make use, according to indications, of all contributing aids which are at his disposal.

Having ourselves pursued this plan in our extended experience with anacusia, we desire here to draw from it some useful lessons for the employment of the infinitely varied resources which the electrophonoid method offers, according to the nature of the affection, as to the judicious employment of the numerous assisting agencies which are at our disposal in a particular case. Furthermore, we discuss the necessity of supporting the local use of sonorous massage by proper general massage. We will then, in order to divide this investigation clearly, study the value of the results according to:

1. The nature of the aural trouble present;
2. The general health of the patient and the condition of life, age, profession, occupation;

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3. The technical employment and the additional aid at our disposal. This latter point will be the subject of our second communication to this congress.

I. The value of the results depends upon the nature of the aural trouble present. Aural nosology has not yet been definitely fixed and, for the moment, it is a question whether possibly the limits established between certain morbid entities are not too elastic or artificial. However this may be, we think that we can give greater clearness to this exposition of the value of the results obtained by anacusia treatment by passing in review the principal functional symptoms rather than the affections, certain of which do not have the name which they deserve, the clinical and anatopathologic table which characterizes them not having been yet perfectly established.

Without fear of insisting once too often, we again emphasize the capital importance which is to be ascribed to the presence or absence of paracusis Willisii. The longer our experience in auditory reeducation, the more we would affirm that every deaf person who hears better in the presence of noise can be benefited by acoustic exercises, and we have already said that a labyrinth excitable to incoherent noises of every nature is by nature still more excitable to a complex sound of infinite variety in pitch and timber capable of modification and regulation at the will of the experimenter. Up to the present time we have never fallen in error upon this point in our practice, and this is why we do not fail to place in evidence and repeat that the presence of paracusis Willisii demands imperatively the trial of anacusia treatment.

Inversely, the determination of a complete ankylosis of the stapediovestibular articulation with a markedly accentuated hypoacusis, impermeability of the tube, shortened Schwabach, positive Rinné with symptoms of vertigo, should make us place a most guarded prognosis upon possible improvement of the hearing, without, however, absolutely contraindicating the trial of electrophonoidal massage, the more so as this does not cause any inconvenience either from the local or general viewpoint.

One of the groups of symptoms most favorable for anacusis is the following: Slowly progressing deafness, not yet pronounced negative Rinné, lengthened Schwabach, positive

Gellé, open tubes, intermittent tinnitus of a low character, not intense, drum membrane only slightly altered in appearance and movable, little or no vertigo, paracusis Willisii, persistent headaches.

Also encouraging, from the point of view as regards anacusis, is deafness in young people with persistent noise (whistling, singing of birds), drum retracted and opaque in appearance, somewhat movable, negative Rinné, some vertigo, restricted movement in the stapediovestibular articulation. Attacked at their onset, these functional disorders can be completely relieved as a result, without doubt of the recovery power of the auditory organ and of the suppleness of the circulation in young persons.

There is a class of symptoms entirely different when we find ourselves in the presence of a semideaf person whose hearing by the aerial route is better than that by bone conduction, who has a Schwabach a little shortened, a positive Gellé, a Weber lateralized to the healthy side, attacks of vertigo of a moderate degree, whose drum membrane shows slight evidence of sclerosis, and in whom finally the upper limit of hearing is lowered. The patient has, in a word, symptoms of a recent chronic labyrinthitis without participation of the windows or of the ossicular chain. We can have recourse to acoustic exercises in such cases with much promise of success, the only condition being that a somewhat different technic be employed, which we shall describe in our second article.

The improvement obtained is not less interesting, although less marked, in the presence of the characteristic signs of impaired movement of the ossicular chain, especially of the stapes, retraction of the membrane, hypertrophy of the mucous membrane or the existence of adhesions, reduced permeability of the tube with negative Rinné, prolonged Schwabach, Weber lateralized to the involved ear, continual and usually peculiar sounds in the ear, such as the noise of sea shells, escaping gas, etc., the sensation of congestion of the head.

Still another table of symptoms demands our attention: A normal drum, a permeable tube, positive Gellé positive Rinné, lowering of the upper limit of hearing, frequent congestion

of the head, especially after eating, labyrinthine troubles, particularly vertigo, hyperarterial tension, exaggeration of the second sound at the aorta, asthmatic dyspnea, etc. Anacousis, in connection with appropriate treatment, serves to combat efficiently in the early stage these circulatory phenomena in their local and radical manifestations, diminishing the vertigo and the noise, stopping the evolution of the process of denutrition and improving at the same time the hearing, finally restoring to normal the arterial tension.

We have already referred to the remarkable drying effect of electrophonoid massage in chronic otorrhea, even in cases of long duration; after fifteen or twenty treatments we often see the discharge decrease, become serous, then at the end of a short time entirely cease without any tendency to recur. Anacousia treatment, as seen by those who employ it, acts upon groups of symptoms altogether removed one from the other, and, as it were, opposed to one another. This therapeutic reaction of anacousia so eclectic in nature has furnished an objection to the critics of this new procedure, who refuse to admit that affections, so different in the functional and anatomic troubles which characterize them, can be equally influenced by one and the same treatment, and nevertheless nothing is more easy than to explain the results obtained by anacousis in soil so varied. It suffices for this only to understand the physicophysiologic mechanism. It perhaps will not be superfluous to describe this here anew, at least in a general way.

The action of graduated sonorous sound is threefold:

1. The stimulation of the auditory organ by the physiologic excitant.
2. Pronounced modifications of the aural circulation.
3. Mobilization of the tympanum and chain of ossicles.

(a) It is not necessary to dwell upon the physiologic principle which defines the remarkable influence, so far as its function is concerned, of normal stimulation on each of the sense organs. The human ear is no exception to this law; the only difficulty consists in being able to furnish it a sound of a physical character entirely similar to that of the human voice, the normal physiologic excitant and of succeeding in regulat-

ing its action by modifying at will its intensity, its height and its timbré. The electrophonoidal apparatus has been constructed by Zund-Burguet with this object in mind, and there is no question but that he has succeeded in his attempt. If we analyze the sounds produced by this apparatus we are able to recognize in it a complete physical identity with those of the human voice. As a result, the problem propounded by Urbantschitsch has been solved.

Auditory reeducation has for its first object the awakening of a function dormant from nonuse or hindered by the degeneration of the tissues and that, naturally, within the limit of the anatomopathologic disorders produced by the evolution of the disease which is the cause.

Just as by exercise we can, in the normal state, develop to a considerable degree, the sight, the touch, the smell, the taste, the hearing, in the same way, by graduated physiologic stimulation can we, in the pathologic state, obtain an improvement of the auditory function or of that part of the auditory function which still remains. One case differs from the other only in the difference of the point of departure and of the difficulty in progression.

(b) As far as that which concerns the action of anacusia upon the auricular circulation, this is proved by the hyperemia of the drum membrane seen by the otoscope after sonorous massage, the sensation of warmth which the patient experiences at the base of the auditory canal and in the external ear, the reappearance of cerumen, and the drying up of otorrhea.

Sonorous sound causes a stimulation of the vasomotor nerves which is shown functionally by a powerful response of the vascular system, an energetic vasodilatation, and by even a pronounced irrigation of the entire auditory tract and the regions adjacent. What are the results of this renewed vascularization? At once a hypernutrition of the mucous membrane of the ear, and as a result a stopping of the process of atrophic degeneration when it exists. If there is a chronic suppuration, these modifications in the circulation bring about a suppression of the blood stasis, and favor the infiltration of round cells through the surface of the epithelium. There are diapedesis and phagocytosis. There is produced on the

other hand an active proliferation and a rapid epidermatization at the base of the old ulcerations scattered over the mucous membrane of the tympanum.

By its remarkable vasomotor effects, electrophonoidal anacusis is antagonistic to the evolution of the lesions of arteriosclerosis of the ear, to endoperiarteritis of the vessels, to spasm of the small arteries, later to the phenomena of necrobiosis through thrombosis and denutrition.

In the double rôle of stimulation of the organ of perception and by modification of the auricular circulation, treatment by anacusis is well indicated also in chronic labyrinthitis and in atrophic sclerosis, as in chronic otitis media catarrhalis or suppurativa.

(c) Let us consider now its action upon the mechanical troubles involving the middle ear, whether through chronic arthritis or from interference with vibration of the osteoarthromuscular system, due to the effect of cicatricial new growth, such as adhesions, bands, hyperplasia of the mucosa, thickening of the tympanic membrane, etc.

The classical procedure for mobilization of the auricular chain and of the stapes is either by the inflation of air in the tympanum through the eustachian tube, by continued traction of the hammer, or by massage of the drum membrane, direct or indirect; the objection to this last procedure is that it does not correspond to the vibratory demands of the middle ear. To mobilize the drum membrane with the Delstanche instrument is to make use of a measure very unlike the physiologic concussion which is furnished to the membrane and the chain by sonorous sound; it is to replace the rapid, gentle effect of sonorous vibration by the brutal, slow action of an artificial concussion produced by manual pressure. Modern use of these various therapeutic measures gives, we are told in our classical treatises, good results in dry chronic adhesive otitis media, but the mobilization of the auditory tract by sonorous sound is much superior because it is physiologic; placed at the head of this treatment of so rebellious an affection, it brings about a much more rapid and complete improvement of the functional troubles, especially that which concerns the improvement of motion of the chain and of the stapes. Anacusis acts like kinesitherapy upon the functional incapacity of a membrane

or an articulation. The machinery of accommodation is subjected to true passive movements which can be varied in amplitude and rapidity according to necessity, dependent upon the nature of the sounds employed. The practice of anacusia has taught us, for example, that in ankylosis of the stapes it is preferable to make use of acute sounds which commend themselves by the brevity of their tones.

The passage of vibrations through the tympanum gives rise to a stimulation of sensitivity and muscular contractibility, shown for the first time by Raoult, and one can easily understand that as a result there is a much greater elasticity of the ossicular joint and a progressive loosening of the adhesions which have formed between the chain of ossicles and the walls of the tympanum.

Another result of this liberation of the osteoarthromuscular system is labyrinthine decompression and the disappearance or, more often, the modification and attenuation of tinnitus aurium.

Vascular sounds (pulsation synchronous with the pulse, whistling, sound of spinning wheel) come in the domain of general therapeutics. As for labyrinthine vertigo, it can frequently be ameliorated if care is taken to regulate the sonorous stimulation in a manner to diminish the hypertension and the congestion of the internal ear.

Conclusion.—By its threefold circulatory mechanical and sensory action, electrophonoidal anacusia has a vast field of usefulness for combating effectively groups of symptoms essentially different one from the other, and this eclectic therapeutics is nothing but the direct consequence of the suppleness, regularity, variety, and power of mixed sonorous vibration, such as is employed in auditory reeducation.

II. The value of the results depends upon the general state of the deaf person and upon the condition of his life.

(a) The General State.—The general state of the deaf person enters to a large degree into the value of the results which we can obtain by anacusia. As Professor Roger has wisely said, living organisms are constructed in such a way that every modification, arising in one point of the system, shows its effect upon the entire system.

Many general maladies have an effect on the labyrinth. Conversely, no disease of the ear remains local; the reactions are more or less marked; although at times imperceptible, they do not the less exist.

It is by the reflex or circulatory route that general functional troubles show themselves upon the ear. As Boulaï of Rennes has remarked, the sensory nerve filaments, altered or not, transmit to the region of the ear nervous stimulations, vasoconstrictor or dilatory, spasmodic, hyperesthetic or asthenic in character, from a point of departure far remote, such as the intestines, the genitals or gastric tract. On the other hand, there is often a localization in the ear of an auto-intoxication through involvement of the circulation, renal insufficiency, toxic neuritis or by chronic constipation, visceral ptosis, enteritis, cephalic congestion, etc. It will be necessary, then, to take into account in the prognosis the results of these chronic factors of intoxication and to make the reservation in it which the general examination of the patient demands.

Progressive deafness frequently is found in an arthritic, gouty, neuropathic, syphilitic, rheumatic soil and, as a result, has to do with organs in a condition of diminished resistance; the less marked are the impressions of these predisposing causes the better are the results obtained in auditory reeducation.

The use of tobacco, quinin, alcohol, all chronic poisonings in general, influence unfavorably the value of the results; these ought to be treated with a course of active therapeutics.

So far as syphilis is concerned, it offers a perpetual menace of a complete apoplectiform deafness or at least of an intensification of the troubles of hearing in patients suffering from auricular sclerosis. When this is known to exist, we ought to always reserve a prognosis, immediate or remote, regarding hypoacusis, and warn the patient from possible loss, sudden or progressive, of the improvement obtained and of the uncertainty of the results.

The degree of improvement depends altogether upon the condition of the cardiovascular system. It is probable that the majority of ear affections have their point of departure in troubles of the circulation, local and general.

Blood stasis, lack of irrigation of the tissues of the ear, and endoperiarteritis of the vessels, are at the bottom of chronic infection of the auricular region, of atrophy of the labyrinth by hyponutrition, and of the degeneration, atrophic or interstitial, of the mucous membrane of the tympanum.

Circulatory disturbances favor the evolution of periostitis and the spongification of the capsule. The areas of osteitis, according to Otto Mayer, are of vascular origin and are the result of the nutrient vessels of the bony labyrinth, branches of the stylomastoid, governing the circulation of the cochlea and of the accessory canaliculi.

Electrophonoidal anacusia has, as is well known, an elective action upon the circulation of the ear which it affects. Its influence will always be profoundly favorable in all cases where the auditory tract is insufficiently vascularized—that is to say, in the majority of affections of the ear.

We would recall, in passing, that the vasomotor action of anacusis does not cease here, but that it seems to exercise an influence upon the general circulation. Helsmoortel of Antwerp, who has given especial attention to the question, states that regularization of the arterial tension and diminution of phenomena of hypertension and hypotension are the rule in the course of treatment.

(b) Conditions of Life.—The value of the results depends also upon the heredity of the deaf person, his age, profession, and his mode of living.

Hereditary deafness resists more than anything else treatment by anacusia, unless we can find a scientific reason for it, the more so as we do not know exactly the mechanism by which heredity acts upon the ear. So far as the age is concerned, it will suffice us to know that degree of improvement is inversely to the age of the deaf person, and to recall that in juvenile sclerosis it can be said that failure never takes place.

Profession plays a large rôle, not in the result which we can obtain, but in the maintenance of the result obtained. It is certain that we must not count upon lasting amelioration in a subject exposed, by his trade, to violent and continued noises, to chronic labyrinthine concussions (telephone operators, chauffeurs, artillerists), to differences in pressure of

great intensity (caisson workers, divers, aeronauts), to all inclemency of the air (hunters, fishermen, sailors, marines).

During the treatment we must insist in every case that the patient shall give up his work in order to avoid, at least for some days, these traumatisms to the ear, the result of occupation.

The maintenance of the result will rarely be obtained in deaf persons who are obliged to live on the sea shore. One can say without exaggeration that the sea is a personal enemy to the ear, especially in those who were not born there or who are not acclimated to the climate of the sea. We can attribute this unfavorable influence to the brusque changes of temperature, to the hygrometric condition of the highly charged air, to a chronic inflammation of all the mucous membranes of the rhinolaryngopharyngeal tract, the result of the cold, moist and irritant atmosphere.

II.—The value of the results obtained in anacusia depends upon the technic employed and the associated measures used.

Technic.—The technic of the electrophonoid method plays a capital rôle in the value of the results, and it is necessary to be acquainted with the modifications that must be made use of according to the case.

At the outset, in a general way it is preferable to give short treatments at frequent intervals, two or three times a day, of three minutes each are of more value than a single treatment of ten minutes. We must never forget that we are dealing with massage, gymnastics and sensory stimulation, and that, as in every other condition, frequent repetition of exercises has an action more intense and efficacious.

At the beginning of the treatment we must proceed with great circumspection, making use of a current of slight intensity. It should be the aim only to arrive at the very threshold of the dynamic phenomena—never to pass it. In other words, the labyrinth should not be irritated by an excessive sound. An exaggeration of the tinnitus and vertigo should be avoided.

In order to proceed with greater safety and prudence, it is desirable at the two or three first visits to treat only one ear at a time, in order to test the susceptibility of each.

It is not possible to determine this in a single day. It is a matter of tact, experience and especially of attention that one

acquires with time. The eyes and the mental reaction of the patient should always be noted and the expressions of his countenance. The least muscular contraction of his face is the first sign of danger.

We have seen persons treated at the outset with too great vigor who abandon their treatment because of the appearance of migraine or vertigo and of the increase of their head noises, and, what is still more serious, because for some days their hearing was made worse, an ensemble of symptoms which rapidly caused them to be discouraged. On the other hand, it is certain that, practiced with gentleness, electrophonoid anacusia will not produce symptoms of this kind. If it does not lead to a satisfactory result, it will at least in no case aggravate the condition.

But it is especially where chronic labyrinthitis exists, and in old people, that all precautions in technic are indispensable. If in spite of this we see a slight exaggeration of the troubles of equilibrium or of the subjective noises develop, it is imperative to stop all treatment at once.

In every case of labyrinthitis and whenever a patient complains of vertigo, high sounds are to be employed but with extreme gentleness. One ear only at a time is to be treated. On the contrary, when the middle ear only is involved, low and medium sounds ought to form the basis of anacusia re-education.

The patient has also his responsibility in the matter, and he ought to collaborate conscientiously with the physician. Great perseverance and punctuality are required, and only rare absence from his daily exercises must be permitted of him. This has an especial bearing in men closely occupied and who respond with difficulty to this discipline. The authority of the physician is necessary to insist upon the importance, early and late, which there is on the part of the patient following out his treatment to the letter, and regarding his two seances each day as his first two obligations.

On the other hand, the rest of Sunday ought to be respected, and if it does not exist we must create it. We have often noted that Monday morning the improvement in hearing was much more in evidence, just as the amelioration is still better eight or ten days after the cessation of the exercises.

Toward the fifteenth day of treatment the patient passes the critical moment. He is accustomed to his initial improvement and, far from being contented, he wishes to hear as well as anybody else. Moreover, he finds this double treatment actually fascinating. This is because the moral cure is playing its rôle, and the aurist on this account ought with much emphasis to dwell upon these points, to stimulate any failing desire on the part of his patient, to make him comprehend the absolute necessity of persevering in the treatment which he has commenced. Indeed this is by means the least rôle of treatment by anacusia because, for the most part, deaf persons are on the road to neurasthenia and bear poorly their forced isolation. They are at a high point in their dislike of life and are prone to sadness, the sister of enforced solitude.

Associated Measures.—Voice is of first importance in reeducation. By the electrophonoid method the labyrinth becomes stimulated, the ossicular chain is passively vibrated; the circulation is rendered active, but the patient submits to these physiologic reactions. We compel him to hear. This is only a step on the road to improved hearing. The object to be attained remains. Making the patient hear is the chief part of anacusia, which alone deserves the name of reeducation, which altogether is as important as the first. The result obtained will be twenty-five per cent better if we submit the patient to these auditory gymnastics. If because of failure of time or faulty laryngeal conditions the physician cannot do this part of the treatment, he ought to give it over to one or more assistants or to the family of the patient, or finally to the patient himself, for this purpose using the wide tubes of Dr. Emile Tillot of Rouen.

We will leave for another occasion the detailed explanation of the technic of this reeducation by the voice. It is sufficient for the moment to say that it consists in repeating to the patient a series of isophonic words, existing or not existing, pronounced in a high voice and in a whispered voice, at a distance where the patient has a certain difficulty in perceiving them. This is done for about a quarter of an hour twice a day. One trains him also for a sensitive ear (if we may employ a classical expression, scientifically correct) to make his auditory organs of accommodation functionate, awakening

from their torpor these faculties of attention which for a long time have been growing numb by the habit of not paying attention to the conversation and so dwelling in perpetual silence.

This vocal reeducation calls for a great effort on the part of the patient, especially for the first few days. It causes intense fatigue, to such a degree that he always seeks to find a reason to avoid it. Here again it is necessary to assert authority, and at the end of a few days the perception becomes much easier; the dimness of sound which exists at the beginning gives place to a much greater clearness of tone.

Electric vibratory massage is another associated method of treatment of which I make frequent use where there are symptoms of stiffness of the ossicular chain, the result of a chronic arthritis or in the presence of bands of adhesions in the tympanum with retracted drum. This bony vibration is especially efficacious when seen in a deaf person with beginning signs of labyrinthism, intermittent vertigo, isochronous with the pulse, sensation of fullness throughout entire head, tendency to congestion of the head, bone conduction equal or inferior to aerial conduction, etc.

There exists in each patient an "optimum" zone over the mastoid, where the application of the vibrating disc produces a concussion which is in every way pleasant, painless and at the same time awakens the contraction of the superficial muscles in that region, probably also the small muscles of the tympanum. Moreover, one can think of a congestion removing effect under the influence of this vibratory massage, and it is perhaps on this account that we frequently observe a marked cessation of the phenomena of labyrinthism.

I have made use also, with success, of the same procedure but applying it with a concave vibrating disc over the occiput.

These treatments ought not to last more than five or six minutes at the beginning, and it is preferable not to give them more than once a day. I commend for the auricular gymnastics the method of Fernet and diathermia.

It goes without saying that the physician making use of anacusia ought to procure for his patient all the improvement possible from the classical therapeutics in the course of the anacoustic exercises and ought not to omit in particular

inflation in hyperplastic adhesive otitis, interstitial sclerosis with thickening of the tympanum, stiffness of the chain, and especially in cases of tubal impermeability.

Otorhinopharyngeal hygiene ought to be rigidly insisted on. The auditory canal should be cleansed of all epidermal débris or cerumen which can be found there. The rhinopharynx ought to be perfectly clean and permeable. It is important for the patient to avoid all acute inflammations (coryza, angina, pharyngitis) during the period of his treatment, and with this in view to take every useful precaution.

I reach now, in conclusion, treatment of a general nature which ought to be the object of much solicitude on the part of the practitioner, because affections of the ear have a relation as cause or result with troubles existing in every other part of the organism. No one has failed to recognize that deafness is frequently found existing with gout, arteriosclerosis, rheumatism, arthritis. In our private practice we prescribe for the majority of our patients as rigid a vegetarian diet as possible and make use daily of purgatives with the idea of removing the toxins from the organism.

The function of the gastrointestinal canal, especially in women, should be carefully looked into, and chronic constipation ought to be actively combated. The lactic ferments, frequent purgatives, and massage of the abdomen form the best of these therapeutics.

In children suffering from juvenile sclerosis, we find often, as stated by P. Cornet of Chalons-sur-Marne, marked symptoms of autointoxication of the gastrointestinal canal, often causing congestion and sclerosis. It follows that calomel in small doses, repeated at considerable intervals, frequent purgatives, vegetarian diet, will aid greatly in the local treatment.

When we note symptoms of congestion of the ear, sensation of fullness, beating, intense noises and tendency to vertigo, headache with insomnia and neuropathic troubles we are in the habit of prescribing six pills of the following formula for six days, three series three times during the month: Extract of henbane, extract of valerian, oxid of zinc, aa 0.06; Indian hemp, 0.01.

In addition we order alcohol massage of the lower limbs, massage of the abdomen, strong purgatives, and especially we

complete locally this action by acupuncture of the mastoid or with leeches.

If we find a certain degree of hypertension, we place our patient on trinitrine, 2 dessert teaspoonfuls daily of the following solution: Alcoholic solution of trinitrin 1/100, 1. drops; distilled water, 300 cc., and later peptonated iodids, ten to twenty drops, before each meal, in a quarter of a glass of milk, regular gymnastics at home without tiring oneself; abdominal massage to reduce the congestion of the system, and rectal venous stasis to stimulate diuresis and to favor also a removal of the toxins from the system. We also favor a hypotensive action of the carbogaseous baths, such as they give at Royat, which reduce the pressure by producing an intense vasodilatation.

In order to obtain the greatest amount of improvement by auditory reeducation it is necessary to supplement this course of continuous treatment by an air or water cure—that is to say, by placing the patient under conditions of complete repose. To isolate him from his ordinary occupation and the fatigue of his profession is almost impossible of complete realization in the majority of cases. The ideal thing would be to establish sanatoria for the deaf out of the city, where the general health can be looked after at the same time as the local condition, and an efficient technic followed out—that is to say, give treatments, very short in duration, very gentle and more frequently repeated. This is a vision of the future. We must content ourselves for the present with making use of the physiotherapeutic action of electrophonoid anacusia in the best manner possible by adapting it with tact to each particular case and to supplement it by the additional means which are at our disposal. We must never forget that an intimate cooperation between a patient and physician is essential, that unflinching perseverance is bound to assist them, and that the value of the results depends not only on the direct or indirect action of the sonorous sound, but also on the will, the attention and the intelligence of the patient and the physician.