patient a greater amount of relief than cleaning the meatus occasionally with warm water. "I know, (observes Otto in his Pathological Essay,) a person in whom, during an atonic attack of gout, the whole mouth, throat, and gullet, are largely covered with a whitish mucus, which, when dried on blotting paper, left behind a large quantity of phosphate of lime. These tophi, as they are more commonly called do not consist as was formerly supposed, of the phosphate, but of the urate of lime, that is of uric acid, which we have spoken of as the probable proximate cause of gout, when it exists in the blood, and of lime in combination. This has been ascertained by chemical analysis, and taken with the preceding facts, may aid in explaining the causes and nature of gout in all its varieties. Further evidence in favour of this view is afforded by the fact, that during the decline of every fit of gout, uric acid or a salt consisting of that acid, with a base, generally ammonia, is largely deposited from the urine, and we also find that the use of alkalies and other antacids, which have an indefinite influence in diminishing the formation of urea, and in causing its elimination are at the same time among the best preventives of an attack of gout. All other facts tend greatly to show that the theory that gout is dependent on the presence of uric acid in the blood for its proximate cause, or at least that it is in some way connected therewith, if not absolutely demonstrated, is at all events far advanced on the road to direct proof.

This theory, however, is not altogether novel. The ancients had a glimpse of the truth, but only a glimpse. Their views were necessarily very crude and unsatisfactory, for want of the knowledge with which the vast and extraordinary progress made in animal chemistry of late years has so amply furnished us. They believed in the existence of a morbid fluid in the system, as causative of gout, but were utterly ignorant of its nature and character. This doctrine prevailed in a somewhat modified form, during the existence of the humoral pathology; but when that failed these different views respecting the causes of gout were put forth. Of late years, again, the dogma teaching that the fluids in the system may be partakers in disease, as well as the solids, and may even be connected with the causes of constitutional and hereditary maladies, revived; and with it was revived the theory that referred gout to a morbid condition of the blood, or, in other words, that placed gout in the category of the blood diseases.

M. Bayle some years ago, published an essay on gout in the *Revue Médicale*, in which, when treating on the causes of the disease, he says they are unknown; but after carefully examining the pathognomonic symptoms, he is inclined to refer them to an alteration of some one of the humours, or as the result of a particular morbid fluid, produced under the influence of certain causes, and circulating with the other fluids in the economy. He especially mentions the occurrence of chalk stones as leading him to form this opinion; but probably he was not aware of their chemical composition, and therefore did not advance further than the threshold of discovery. Nevertheless, he believed that

the morbid fluid, whatever it was, circulated in the blood; and, in confirmation of that view, cites the somewhat apocryphal case recorded in the "Nuremberg Commentaries," where it is gravely stated that blood drawn from the arm contained small gravel! Later investigators have referred the proximate causes of gout to the presence of a morbid element in the blood; but it was reserved for Garrod to discover what that morbid element was. He distinctly ascertained that during an attack of gout the blood always contains uric acid, and that that body can be crystallized from it in the shape of urate of soda, the acid being either much less in quantity or altogether absent from the urate. Dr. Bence Jones has since confirmed Dr. Garrod's statement, the results of his own experiments having satisfied him as to their correctness. Murray Forbes had, however, so far anticipated him as to have promulgated the opinion that the morbid material poisoning the blood was lithic acid; but he did not support his views by direct experiment, and, consequently, it is to Dr. Garrod that the profession is indebted for the elucidation of this important and interesting subject.*

WHAT OUR ASSOCIATION MIGHT DO.

By C. RADCLYFFE HALL, M.D.,
TORQUAY.

For the "Provincial Medical and Surgical Journal."

No. III.

HAVING considered the attitude we might take in regard to quackery, let us next inquire how we may improve our present one in regard to medicine. If we can find not a single positive excellency in homœopathy, we must not disguise the weak points in legitimate medicine. And first, of our shortcomings in the daily routine of practice, for which the practitioner and not scientific medicine is responsible. It were difficult to prefer an indictment against ourselves that should neither exaggerate nor underrate; and it is quite unnecessary to make the attempt. Our end will be sufficiently gained by directing attention to a few points wherein we might accommodate ourselves somewhat more than heretofore, perhaps, to the temper of the times, without infringing upon what is due to self-respect or to our patients. It need scarcely be stated that these points lie quite upon the surface. Expressly intended to raise the ordinary style of practice in the estimation of the public, to disabuse the public of some of their prejudices, and to remove some of their commonest objections, as these

* "I have stated," says Dr. Graves, in his Clinical Medicine, "that gouty affections of the brain have long been known; and I am not sure that some of the older authors may not have alluded to gouty affections of the spinal marrow; but as our knowledge of the peculiar state of the brain and spinal cord termed ramollissement is comparatively recent, and not dating with any degree of accuracy earlier than the works of Abercrombie, Boston, and other modern authors, it is obvious that any observations made by the older writers concerning gouty affections of the nervous centres can have no distinct reference to this lesion."

prejudices and objections, however deep and influential, refer only to what is superficial, inasmuch as they refer only to what is intelligible to persons ignorant of medicine, hints for our guidance cannot be very profound.

It may be that the following directions are superfluous, and are not required by any amongst us to be expressly laid down as ordinary rules of practice.

1. Never prescribe medicines when hygiene will do as well and can be enforced.

2. Never permit the patient or those around him to expect more from medicines than medicines can perform.

3. Never prescribe medicines, except avowedly as mere palliatives, when the period is gone by for them to be of ultimate service.

4. Never conceal the *general* intention of the treatment; i.e., whether it be adopted with a view to cure, or only to mitigate the disease, or merely to alleviate a symptom or symptoms.

5. Never prescribe medicines more powerful than are necessary; or continue a powerful medicine longer, or repeat it oftener, than the disease actually requires.

6. Never attribute to the medicine-giving part of the management of a successful case more than its due share of credit.

Never to prescribe medicines when they can without disadvantage be dispensed with, is by no means the easy rule to be observed that it seems. Confidence in the work of Nature unaided by its time-honoured handmaid and namesake Physic, requires a species of abstract faith more difficult to meet with than faith in the physc itself where the object is palpable.* Medicines may not be needed for the disease, but they may be for the patient. Distrust would hurt him, and of nature alone

he is distrustful. The rule, therefore, cannot be made absolute. But as often as it can be adopted it should. By degrees, the doctrine will work its way, that medical attendants are required to survey, superintend and direct disease, to watch lest harm accrue unnoticed, to employ active remedies when required, or not to interfere at all, as seems to their own judgment best. Every case of successful treatment without medicines will assist to indoctrinate the public with this view. By learning how much Nature can do without medicines, people will be able to perceive more correctly how much medicines, when they are necessary, can assist Nature. Witnessing for every case of recovery after globules, a parallel case of recovery without medicines of any kind, homœopathic patients will by degrees accept the truth. Most forms of quackery are killed by a newer and more plausible species. The old description is superseded by the new. Homœopathy, however, is so specious and so outrageous, that it would indeed be a clever piece of new quackery that should despoil it of its charms. Truth must kill it.

And must we, as a consequence of so raising the veil, sink in estimation, in occupation, or in remuneration? Without arguing that the question, being one of principle, is not to be decided by such a consideration, we answer unhesitatingly that we need not fear any such result. Every patient sensible enough to permit the treatment, will be sensible enough to appreciate him who directs it. Medical attendance can never be dispensed with. Natural solicitude in most, and an occasional error of judgment in the rest, will effectually ensure that. On the other hand the advantages are real. Every indisposition which is recovered from as well without medicines as with, is recovered from better without than with. The homœopathist tells his patients that by taking his infinitesimal doses until they are cured, they are spared the debility and wear and tear of system produced by what he nicknames the Allopathic mode of treatment; and that they will have less ground to make up. And when the case happens to be such as will do well under hygiënic treatment alone, without medicines, unquestionably he is right.

"Verily, there is nothing so false, that a sparkle of truth is not in it."

Of all recommendations, this is the one which has most influenced the sensible non-professional adopters of homœopathy. Such persons can be taught only *by examples* that the cases will recover just as well without globules as with them.

If any one doubt the extent to which a patient will mislead himself in judging of what affects his own body, be it a globe or aught else; or, the extent to which confident assurance will produce a predicted result; let him consider the facts which are mixed up in the fictions of the so-called electro-biology. These facts and ordinary medical experience conspire to show how great is the importance of confidence on the part of the patient in the effects promised by his attendant, and how happy a gift for the homœopathist is the possession of a due share of modest assurance. In pitting hygiene and nothing, against hygiene and the globules, in the

* This feeling is by no means restricted to medicine. It is natural, instinctive, and universal in its application. All little-cultivated, or rather little-exercised minds—and they constitute of course the great majority—are quite unable to believe anything that does not furnish them with an appreciable object of sense either past or present. Hence, in the History of Religion we find that the first phase has always been Idolatry. If we may without impropriety refer to things sacred, we find the highest illustration of accommodation to this requirement of the human mind in the Divine scheme of Religion, arranged as it is to meet the necessities of all men for all time. In the Saviour, Christianity presents an object impersonate, on which all may build their faith. Without such an object, teaching by example as well as by precept, the great bulk of mankind would be incapable of realising the perfect exercise of faith at all; and to every one faith is easy in proportion as it is more objective, less abstract. This is not mere matter of theory or of metaphysical inference. It has been put to the test of experience. When Robespierre, alarmed at the political results of an open denial of all religion, caused pure Deism to be preached in the churches of Paris; after the novelty wore off, congregations would not attend. The people could feel no faith in abstractions. When the first missionaries to Greenland preached Natural Religion (i.e. Abstract Religion) they excited little attention and made no converts. So soon as they began to preach Christianity, and thus to furnish an object which was intelligible to the untutored minds of their hearers, the difference in result was great and striking. But it is in the time of greatest need when reason is failing in its power, when the strong mind becomes weak, in protracted sickness and at death, that we perceive most forcibly that instance amongst so many of the perfect adaptation of Christianity to our nature, which consists in its not merely explaining and commanding faith, but in furnishing us with an object of faith cognizable to the senses once, and to the mind's eye for ever. The natural history of Human Faith, its extent, its limitations, and its laws; illustrated in its abuse, by the evils of superstition, the absurdities of credulity, and the unreasonableness of scepticism; and, in its use, by support under trial, comfort in sorrow, and happiness in the exercise of it; has yet to be written. In such a book, how large a page must be devoted to quackery in Law, Physic, and Divinity! And it could not be otherwise. To expect to have the uses of faith and not its abuses, would be to expect to have one part of our moral nature, and that the highest, perfect, when all the rest is imperfect.

management of suitable cases of illness, the legitimate practitioner must maintain the confidence of his patient in the mode adopted, as fully as the homœopathist does; otherwise, the conditions are not the same, and the potent influence of the *morale* will support the one and oppose the other method, and nullify the trial for all purpose of comparison.

The cases and the circumstances in which *hygiène* may be trusted to, exclusive of medicines, must be left entirely to the discretion of the attendant, who will seldom be at a loss to decide when he may be the careful looker-on, and when the energetic actor; when he must oppose the enemy like Fabius, or conquer him like Hannibal. As an example, we adduce the following every-day occurrence:—A child, above the age of infancy, is chilly, looks dull around its eyes, has headache, pain in the back, quick pulse, and no appetite. It is not known that the digestive organs have been over-taxed. The case may prove—anything. A local inflammation not yet made manifest by local pain; the commencement of continued, or remittent, or exanthematous fever; in a word, there is scarcely any ailment of children of which this may not be the commencement. If, on careful examination, no local disease can be made out, we have no correct indication for special treatment. Give Nature fair play. Put the child into a warm bed in a warm room, keep it quiet, stop the supplies of food, but not of water, and wait. When reaction takes place, if there be anything serious it shows itself, and we then know what to attend to. Very frequently, the case is one of mere ephemeral febrile disorder, from exposure to cold; and in two or three days the child is perfectly well again without having taken either medicines or globules. But have we done nothing? When the heart was striving to restore the balance of the circulation, by adopting the recumbent posture we gave it less work to do. The equable warmth of bed was soothing to the nervous system, and solicited the afflux of blood to the surface. By abstinence, we avoided ministering to congestion of the viscera, and introducing food which, as it could not be properly digested, would decompose and irritate the stomach and bowels. We have not thwarted Nature; in a measure, we have assisted her. She has done her own work, and done it well. The convalescence in such a case does not exist. Treat the case in the same way *quoad hygiène*, and give globules. The result is the same. The only difference being that the credit is now given to the globules, and considerable respect and gratitude are felt towards the talented and ingenuous Globularius. Treat the case with an emetic, a dose of calomel and saline mixtures, and at least there will be a stage of convalescence to be passed through.

It is in such a case that the homœopathist “cuts short” an attack of fever, or “prevents it from passing on into typhus!”

In all chronic blood-diseases, medicines are useful, but *hygiénic* treatment must rank the first. In all acute blood-diseases, when mild and occurring in a previously healthy constitution, as they must run through a special course and last for a certain time,

cases will frequently do very well without any medicines. More frequently, a little medicine occasionally to meet a temporary requirement is serviceable; but in every case of this kind, however severe, the difficult point of medical judgment is, rather, when to do nothing, than what to do. *Hygiénic* treatment is invariably necessary. Acting on the principle of the accoucheur, that Nature is to be carefully watched, but that so long as she proceeds well, she is to be let alone, we shall meet with few cases of illness in which we cannot find opportunities to judiciously dispense with medicines.

And if we openly make it our rule of practice as far as possible to dispense with medicines, will the public begin to dispense with us? This consideration is low ground to take, but the reality and importance of its influence must be our excuse for again reverting to it, and for answering it emphatically in the negative. Do the public dispense with the accoucheur because they are quite aware that in many cases, his scientific interference with Nature will not be needed. His scientific knowledge and experience are always needed to give confidence in Nature's work, the assurance of safety, and to prevent mistakes. It occasionally happens in the experience of the country practitioner, that some farmer's wife glories in the number of olive branches she has attached to the family tree without the aid of the accoucheur. Fifteen children born without the doctor! and at her sixteenth confinement she dies of flooding. The occurrence affects the *Cæsculapius* of the neighbourhood, very much as an occasional fire affects an insurance office.

No. The old adage concerning the man who is his own physician expresses the public sentiment as well as our own. Moreover, the reply to the question is given already by the custom of those who employ homœopathic advisers. According to the doctrines of homœopathy, he cannot err who administers the proper globules for the given symptoms. The knowledge of pathology, physiology, or anatomy, is entirely unnecessary and superfluous. Symptoms alone guide the treatment, and therefore symptoms alone require attention. Now, in the *ad captandum* books on domestic homœopathy, the symptoms and their remedies are so clearly and explicitly laid down, that he who reads may learn. Any one suffering from “a Cough,” for instance, may ascertain immediately by considering its particular accompaniments, whether he must take decillionths of a grain of “aconite, belladonna, chamomilla, hyoscyamus, ignatia, ipecacuanha, nux vomica, pulsatilla,” or “arsenicum.” It is true he may be a little puzzled to find some of the same (*similia similibus*) remedies enumerated as proper for chilblains, measles, erysipelas, nettle-rash, epistaxis, croup, quinsy, diarrhoea, infantile convulsions, and maternal milk-fever; but still none of these complaints are just now any concern of his, and the directions for treating his own disorder of “Cough” are so clear and precise, and each remedy has power over so many different symptoms, that, guided by the book, the selector can hardly go wrong. Indeed the effect of the given globule appears to depend entirely upon what is required to be

done; fulfilling the intention of the prescriber, whatever that may happen to be. As the patient, if his own doctor, can have but one intention in prescribing, of course the globules he may take can scarcely avoid curing him. "Sometimes," however, this patient must remember, "homœopathic remedies, even when administered in strict accordance with the homœopathic law, cause an aggravation of the symptoms." (Epps; p. 272.) Again, it must be admitted that cases do occur in which the patient ought not to prescribe for himself, or the parent for his child. For we read,— "No parent is justified in treating hydrocephalus; the physician's (*i.e.*, the homœopathist's) aid must be sought: and I (Epps *loquitur*) can add, from an extensive experience, that the homœopathic physician's aid is very often *successfully* sought: a result rarely, if ever, obtained under allopathic treatment." Still, in the majority of cases, provided he be not too ill to think, or rather to read, nothing can be more easy than for a homœopathic patient to prescribe for himself. Yet he rarely does so.

We must not in justice conceal that there may certainly be some reasons to prompt a believer in homœopathy to send for his adviser, which could not operate upon our patients. Thus, we may imagine a diffident patient in a fit of colic to refer to his book, and read that the proper remedy for colic, provided it occur "*in very mild dispositions*," is *pulsatilla*. As self-knowledge is at all times difficult, and as indisposition does not clear the perceptive faculties, the diffident patient may need his adviser to decide for him whether his is the colic that *pulsatilla* can cure, more especially since a mistake in regard to his own disposition might be serious, as this emphatic observation testifies:—"Note.—It is one of the peculiar features of homœopathic practice, that the *moral* symptoms are so highly important: in fact, in some cases deciding the use of a remedy. Precision is therefore one essential in successful homœopathic practice: and if precision is deemed a mark of a scientific mind, surely homœopathy, which requires such precision, is to be regarded as possessing a scientific character." (p. 205.) Surely; surely!

Again, we may imagine a homœopathic patient of a logical turn of mind to feel a difficulty in understanding by himself how this same *pulsatilla*, for instance, can be a *homœopathic* remedy for so many diseases having different symptoms. He reads, as its definition, that "Allopathy (*ἄλλος*, *allos*, another, and *πάθος*, *pathos*, suffering,) is the doctrine that develops the principle that diseases are to be cured by inducing *other diseases in some parts of the system not already affected*." Legitimate practitioners, he knows, have called their art and science allopathy: but the bill of fare was not tempting, so he has long since forsaken that. "Homœopathy (from *ὁμοίος*, *omoios*, like, and *πάθος*, *pathos*, suffering,) is the doctrine that develops the principle that *diseases are cured most quickly, safely, and effectually by medicines which are capable of producing in a healthy person symptoms similar to those existing in the diseases*." (p. 241.) As an illustration,

he finds that, "persons liable to toothache should abstain from coffee, toothache being one of the effects of *coffee*." (p. 101). Accordingly, "*coffœa*," in an infinitesimal dose, is given as a cure for toothache. Thus impressed with the characteristics necessary for a homœopathic remedy, the logical patient looks through the list of symptoms of various disorders to find out his own, and discovers, in passing, that sulphur, in homœopathic doses is peculiarly efficacious in cases of tape-worm. Now, as he knows that the only unmistakeable sign of *tenia* is the appearance of a portion of the parasite, the doubt arises—can sulphur in a large dose make a tape-worm? But, on the other hand, arsenic in homœopathic dose, he finds, is the remedy for the "fear of death;" and arsenic in large dose certainly does produce that symptom. He passes on, and is struck with the number of diseases having very dissimilar and opposite symptoms which *pulsatilla*, in homœopathic doses, will cure. Can *pulsatilla* in large doses, then, produce dissimilar and opposite conditions in a healthy body? If not, how can it be *the homœopathic* remedy for diseases which present opposite symptoms? He finds that *pulsatilla* is a homœopathic remedy in the following tolerable extensive catalogue of dissimilar ailments:—

Chilblain.	Hæmoptysis.
Measles.	Toothache.
Erysipelas.	Sore throat.
Nettle-rash.	Dyspepsia.
Inflamed wounds.	Vomiting, "when caused by food that is fat;"
Headache.	Constipation.
Stye in the Eyelid.	Diarrhœa.
Earache.	Colic, "in very mild dispositions;"
Running from the Ear.	Jaundice.
Bleeding from the Nose.	Inflammation of the Liver.
Catarrh.	Rheumatism.
Bronchitis.	Varicose Veins.
Cough.	
Whooping-cough.	

The logical patient feels *l'embarras des richesses*. Can *pulsatilla*, he asks himself, taken in any quantity whatever, really produce the symptoms of vomiting precisely resembling that "caused by food that is fat," in a healthy person who has fasted for some time previously, in order to give the drug "a fair field and no favour?" Can it really occasion the symptoms of measles? Can it make a healthy vein become varicose? Can it even cause a sound tooth to ache? And if it cannot do all these things, it cannot really be the homœopathic remedy for all these disorders. And if not for all, for which?

And on further reflection, can *any* drug or substance whatever, in *any* quantity whatever, really produce the symptoms of measles, scarlatina, small-pox, or typhus? or those of hydrocephalus, pneumonia, or peritonitis? Unless the answer be in the affirmative, there can be no *homœopathic* remedies for these complaints. But in what part of the book are the proofs? Is the recovery of patients after taking the assumed homœopathic remedies the only proof? It is all the logical patient can find as such. Then homœopathy did not

begin with Hahnemann. Two hundred years ago and more, patients with scarlet fever were treated by hanging the bed and bed-room with scarlet drapery, and they recovered after it. Doubtless, because the remedy produced the characteristic symptom of redness of the skin. And from time immemorial our rustics have cured jaundice with saffron tea, which if applied to the skin in considerable quantity would produce the symptom of yellowness. But, on the other hand, sometimes when owing to circumstances, no remedies whatever have been administered, patients have recovered equally well from scarlet fever and from jaundice. If, then, this fact of recovery be the sole proof,—1st, of the power of the remedy in large dose to produce the symptoms; and, 2nd, of the power of the remedy in infinitesimal quantity to remove the symptoms, and cure the patient; it is equally strong in proving in both these senses the potency and efficaciousness of *nothing*. Potentially are they one and the same?

"Quantum erat, ut sineres hos toto corpore jungi."

Again, has any *proof* ever been given that a millionth or a decillionth part of a grain, does possess more of the properties of the remedy than the whole grain? Will a drop of laudanum procure sleep like a hundred drops? Will a drop of hydrocyanic acid, of the ordinary strength, kill like a thousand drops? If not, the increased potency of infinitesimals can only commence when the particle of matter is too minute to be recognizable, and therefore too inappreciable to be submitted to proof. But does not the drug obtain some new power from the friction and shaking to which it is subjected in the preparation of infinitesimal doses, and so obtain a curative property, which in larger quantities it did not possess? Are not the globules *dynamized*? But if the globule cures the disease because it has gained something by dynamization which it did not possess before, then it does not cure in accordance with the fundamental principle of homœopathy. Not having the property whilst in large quantities, which renders it efficacious after infinitesimal division, it is virtually two things in the two conditions; one thing in large quantity, a different thing when dynamized in small quantity. What, then, becomes of the "law" of *similia similibus*? It is not one remedy to cause and the same to cure the disease, but virtually one to cause and another to cure. But, granting that this dynamization does transgress the great law of homœopathy, that is not an insuperable objection. Certainly not. Then *prove* the dynamization. Will ten shakes of a vial make one drop of laudanum as powerful as a drachm, or give to it any appreciable new quality? Will six rubs and a half make a twentieth part of a grain of aloes as potent as ten grains, or confer upon it any ascertainable fresh property?

Unable to reconcile his doubts with his preconceptions, the logical patient is more confounded than at first: like the reader, he is tired of the subject; he ceases to think, feels a heightened respect for the mind which can master what his own cannot, falls back on infallibility, and sends for Dr. Globularius.

Of the three doctrines of homœopathy,—*similia*

similibus curantur, the power of infinitesimal quantities, and the dynamization of the globules, the last refutes the first, and the second must be exposed by illustrating on mankind the logic of Puff in the *Critic*:

"If the cure is very great when the dose is very small,
It must be greater still when the dose is none at all."

We may rest assured that how much soever we can with justice dispense with medicines in the treatment of disorder and disease, the patient will still require and appreciate our aid. The public will learn by degrees to trust more to the judgment of the individual medical attendant, and somewhat less to the medicines he prescribes. Such a consummation might be greatly hastened by the efforts of each member of our Association.

Provincial Medical & Surgical Journal.

WEDNESDAY, DECEMBER 10, 1851.

It has always been our earnest endeavour that no injustice should be done through our pages to the reputation or personal feelings of any individual. We therefore lose no time in correcting the erroneous impression which a notice in our last number might give rise to, as to the circumstances under which Dr. HOLLAND was induced to hold professional intercourse with an avowed homœopathic practitioner. We then simply announced the fact that such intercourse did take place, appending such comments as we at the time thought deserved, but we are now with pleasure enabled to assure our readers, from Dr. HOLLAND himself, that he had no *intention* whatever to act otherwise than in accordance with the strict line of medical morals.

It appears from the tenor of a communication with which we have been favoured, that Dr. HOLLAND, when summoned from London, did not know whom he was going to meet, and that when informed of the character of the practitioner in attendance, begged it to be understood that he felt himself in a difficulty, stating at the same time his convictions respecting homœopathy. He also informed the friends of the patient, that in seeing the globulist, which he did next morning, and which he considered it was his duty to do, to obtain details as to the antecedents of the case, he wished it to be fully understood that he examined and prescribed for the patient on his own responsibility. It is clear, therefore, that Dr. Holland did what he