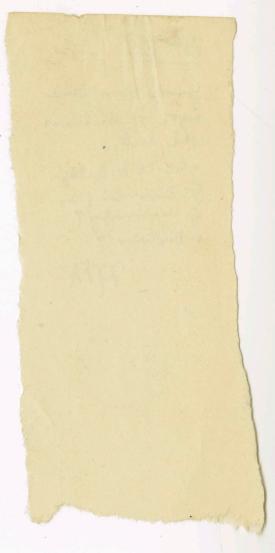
NHZ: found some time ago in Michelovis old dask. . give to W. Bartly for historical files or Division? 29M



WHZ For your file



Peace on earth, good will towards men

HERE WAS A MAN who saw God face to face.

His countenance and vestments evermore
Glowed with a light that never shone before,
Saving from him who saw God face to face.

And men, anear him for a little space,
Were sorely vexed at the unwonted light.

Those whom the light did blind rose angrily;
They bore his body to a mountain height
And nailed it to a tree; then went their way;
And he resisted not nor said them nay,
Because that he had seen God face to face.

There was a Man who saw Life face to face, And ever as he walked from day to day, The deathless mystery of being lay Plain as the path he trod in loneliness;

And each deep-hid inscription could he trace: How men have fought and loved and fought again: How in lone darkness souls cried out for pain; How each green foot of sod from sea to sea Was red with blood of men slain wantonly: How tears of pity warm as summer rain Again and ever washed the stains away. Leaving to Love, at last, the victory. Above the strife and hate and fever pain. The squalid talk and walk of sordid men, He saw the vision changeless as the stars That shone through temple gates or prison bars. Or to the body nailed upon the tree, Through each mean action of the life that is, The marvel of the Life that yet shall be.

-David Starr Jordan

OFFICE OF THE PRESIDENT LELAND STANDORD JUNIOR UNIVERSITY

Palo Alto, California

Menlo Park P. O., Cal. July 28, 1891.

Dr. William R. Harper,

Chautauqua,

N. Y.

Dear Dr. Harper:

I have been very sorry that I did not meet you somewhere before coming west. You and I, as matters stand now, are more nearly engaged in the same work than any other two men in the country. Each of us has a remarkable opportunity, and I hope that neither of us will do any great mischief with the work that has been put in our hands. I find that we are likely to cross each other's path more than once in the selection of our faculty, and one of the strongest things that can be said in praise of the Chicago University is the character of those men to whom positions are reputed to have been offered.

Your name will, of course, be put on our mailing list, and I shall hope to receive copies of everything which you may publish.

Cordially yours,
DAVID S. JORDAN

OFFICE OF THE PERSIDENT LELAND STANDORD JUNIOR UNIVERSIT

Palo Alto, California

Menlo Park P. 0., 0al. July 28, 1891.

Dr. William R. Harper,

Chautauqua,

N. Y.

Dear Dr. Harper:

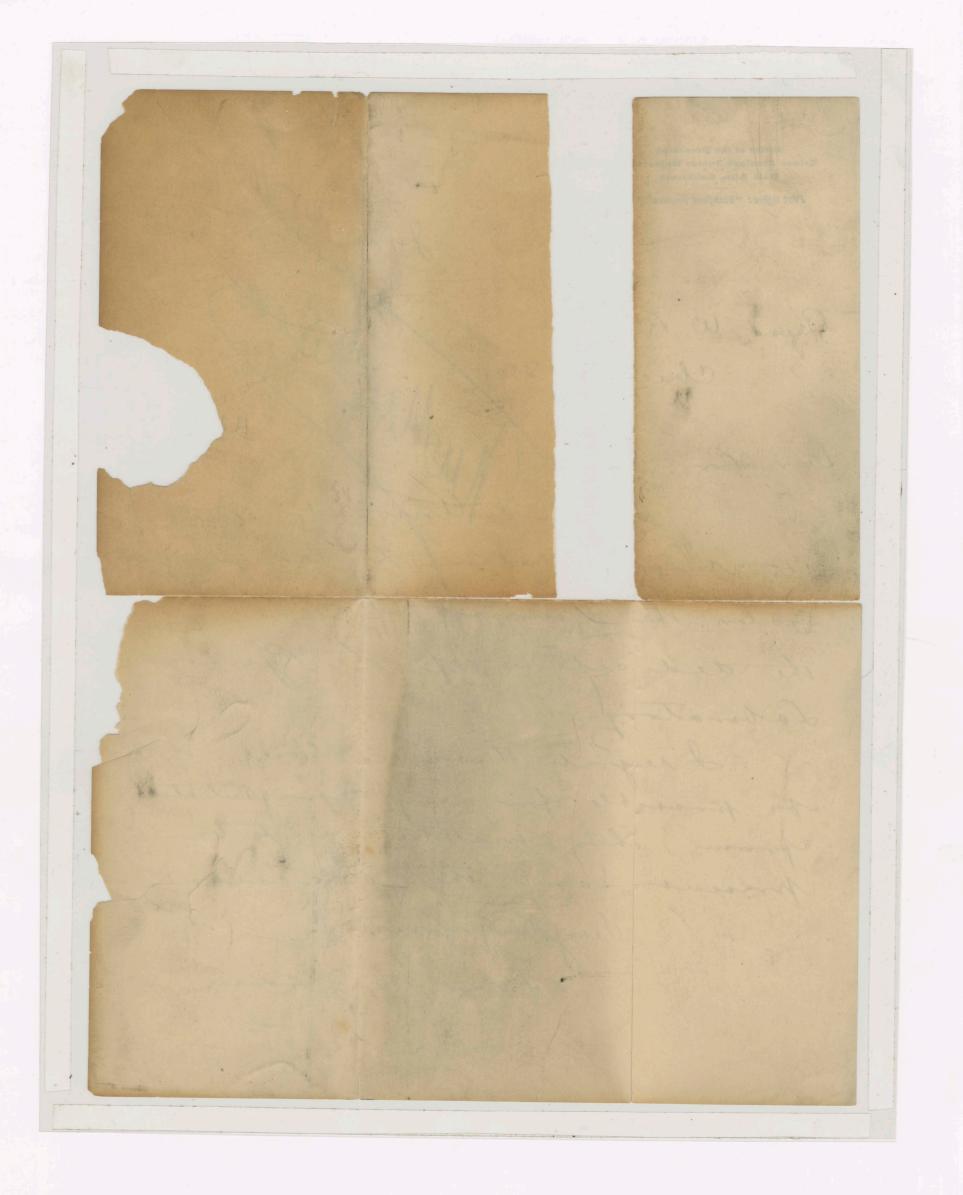
I have been very sorry that I did not meet you somewhere before coming west. You and I, as matters stand now, are more nearly engaged in the same work than any other two men in the country. Each of us has a remarkable opportunity, and I hope that neither of us will do any great mischief with the work that has been put in our hands. I find that we are likely to cross each other's path more than once in the selection of our faculty, and one of the strongest things that can be said in praise of the Chicago University is the character of those men to whom positions are reputed to have been offered.

Your name will, of course, be put on our mailing list, and I shall hope to receive copies of everything which you may publish.

Cordially yours, DAVID S. JOHDAN

Office of the President Teland Stanford Junior Universi Palo Alto, California Post Office: "Stanford University" Crest. W. R. Illyforial sends lating to her young ils cong. sister, the University of Chicago, on the dedication of the Kjurs Laboratory. I regnt that it will not De possible for any reformedation from this institution to be present on the occasions Veryting yours. David S. Lordan

Office of the President Teland Stanford Junior Universi Palo Alto, California Post Office: "Stanford University" Prest. W. R. Diar Dis Unporrail sends lations to her younger sister, the University of Chicago, the dedication of the Ryanson Laboralory I regnt that it will not De possible for any reporsentation from this institution to be present on the occasion Veryting yours. David S. Jordan



Office of the President Teland Stanford Junior University Palo Alto, California

Post Office: "Stanford University"

University of Chicago.

Prest. William R. Harper,

Chicago, Ill

Dear Sir:

The details of the foundation and organization of the Leland Stanford Junior University are familiar to you. In 1885, after the death of their only son, Leland Stanford and his wife resolved to devote their fortune to the cause of Higher Education, and they established the University by a grant of some 85,000 acres of land, and the erection of the necessary buildings at a cost of \$1,500,000. The University was opened in 1891, and has now 1050 students and 80 teachers.

On the death of Leland Stanford in 1893 he left the University \$2,500,000 in cash, his wife being the residuary legatee of an estate appraised at \$17,000,000. It was the understanding between Mr. and Mrs. Stanford that the survivor should give this sum to the University, of which the two were joint founders. This Mrs. Stanford has loyally endeavored to do, devoting every energy to this end and having already made great personal sacrifices. Every debt of the estate has been paid by her, and her sole thought has been how best to contribute to the strength and usefulness of the University. While she and her husband had the deepest interest

onto dential

Silice of the Peccious, Leland Amulovõ, Junior Bulverolly Balv Alio, California

ost Office: "Stanford University"

Prest. William R. Harper,

University of Chicago,

Chicago, Illa.

Oct. 30, 1894.

Doar Sir:

The details of the foundation and organization of the Leland Stanford Junior University are familiar to you. In 1885, after the death of their only son, Leland Stanford and his wife resolved to devote their fortune to the cause of Higher Education, and they established the University by a grant of some 85,000 agrees of land, and the erection of the necessary buildings at a cost of \$1,500,000. The University was opened in 1891, and has now 1050 students and 80 teachers.

On the death of Leland Stanford in 1893 he left the University \$2,500,000 in each, his wife being the residuary legatee of an estate appraised at \$17,000,000. It was the understanding between Mr. and Mrs. Stanford that the survivor should give this sum to the University, of which the two were joint founders. This Mrs. Stanford has loyally endeavored to do, devoting every energy to this end and having already made great personal sacrifices. Every debt of the estate has been paid by her, and her sole thought has been how best to contribute to the strength and usefulness of the University. While she and her musband had the deepest interest

President Harper -2

in University matters, they have given the University the utmost freedom of development. No gift so great was ever before made to the cause of Higher Education and none was ever made in a nobler spirit. No Faculty has ever been so free as this one to make the University what, in its judgment, a University should be.

There is but one cloud on the future of the University, - a claim made in the name of the Attorney General of the United States for the sum of \$15,000,000, the amount to be due in a few years on a second mortgage on the Central Pacific Railroad, in which Mr. Stanford was a stockholder. Able and distinguished jurists hold the opinion that this claim can have no legal basis. It is more than probable that the eventual result of litigation would be favorable to the University. Nevertheless prolonged litigation would be disastrous to the continuous growth and usefulness of the institution, and conceivably it might result in defeating entirely the intentions of the founders. During such litigation this vast fortune would doubtless be frittered away. Even if the United States should secure judgment -- and I know of no ground on which such a judgment could be based -- a forced sale of the stocks and bonds of which the Stanford estate is in great part composed would realize but little in the markets of the country.

The cause of Higher Education in America is deeply interested

Post Office: "Stanford University"

President Harper -2

in University matters, they have given the University the utmost obsm evoled neve saw iseng os ilig oN .inemqoleved to mobeent to the cause of Higher Education and none was ever made in a nobler spirit. We Faculty has ever been so free as this one to make the University what, in its judgment, a University should be. There is but one cloud on the future of the University, - a claim made in the name of the Attorney General of the United States for the sum of \$15,000,000, the amount to be due in a few years on a second mortgage on the Central Pacific Railroad, in which Mr. Stanford was a stockholder. Able and distinguished jurists nold the opinion that this claim can have no legal basis. It is more than probable that the eventual result of litigation would be favorable to the University. Nevertheless prolonged litigation To smenfuleau bne diworg swountines ent of swortess to ed bisow gnitaeleb at fluser figin it widevisonos bas , notiutizati edi entirely the intentions of the founders. During such littlestion this vast fortune would doubtless be frittered away. Even if the United States should secure judgment -- and I know of no ground ent to else beered a -- bessd od blues indgment a judgment could be based -- a forced sale of the stocks and bonds of which the Stanford estate is in great part .veringos end to sientem end at efficie but exilaer bluow besognoo The cause of Higher Education in America is deeply interested

President Harper -3

in saving this magnificent endowment for the purpose to which it was devoted. I write this in the thought that possibly in some way or other you may be able to help us in our struggle to maintain this fund for the purposes of Higher Education or at least to bring the matter to a speedy decision. Perhaps the only way at present is simply to give to those of your friends who may be interested an idea of the facts in the case as understood by us. Any service you may be able to render will be gratefully appreciated.

Very truly yours,

Wanid Dordan.

President.

Office of the Bresident Teland Stanford Junior University Palo Alto, California Post Office: "Stanford University"

President Harper -S

in saving this magnificent endowment for the purpose to which it was devoted. I write this in the thought that possibly in some way or other you may be able to help us in our struggle to maintain this fund for the purposes of Higher Education or at least to bring the matter to a speedy decision. Perhaps the only way at present is simply to give to those of your friends who may be interested an idea of the facts in the case as understood by us. Any service you may be able to render will be gratefully appreciated.

Very truly yours.

President.

Pharker

THE STABILITY OF TRUTH. #

BY

DAVID STARR JORDAN.

#ADDRESS AT THE DEDICATION OF HULL HALL, UNIVERSITY OF CHICAGO, JULY 3rd, 1896.

Leghorn =

THE STABILITY OF TRUTH. #

YH

DAVED STARR JOHDAM.

PADDRESS AT THE DEDTCATION OF HULL HALL, UNIVERSITY OF CHTCAGO, JULY 3rd, 1890.

#ADDRESS AT THE DEDICATION OF HULL HALL , UNIVERSITY OF CHICAGO, JULY 3rd, 1896 .

THE STABILITY OF TRUTH.

DAVID STARR JORDAN .

within the last few years three notable assaults have been made on the integrity of Science. Two of these have come from the hostile camp of mediaeval Metaphysics, another from the very front of the army of Science itself. Salisbury, Balfour and Haeckel agree in this, that "Belief" may rest on foundations unknown to "Knowledge", and that the conclusions of Science may be subject to additions and revisions in accordance with the demands of "Belief". To some considerations suggested in part by Balfour's "Foundations of Belief" and Haeckel's "Confession of Faith of a Man of Science", I invite your attention to-day.

The growing complexity of civilized life demands with each age broader and more exact knowledge as to the material surroundings and greater precision in our recognition of the invisible forces or tendencies about us. We are in the hands of the Fates, and the greater our activities, the more evident becomes these limiting conditions. The secret of power with man is to know its limitations. To this end we need constantly new accessions

CHICAGO, JULY SPE, 1896 .

THE STABILITY OF THUTH.

DAVID STARE JOEDAN .

Within the last few years three notable assaults have been made on the integrity of Science. Two of these have come from the hostile camp of mediasval wetaphysics, another from the very front of the army of Science itself. Salisbury, Salfour and Hasckel agree in this, that "Belief" may rest on foundations unknown to "Knowledge", and that the conclusions of Science may be subject to additions and revisions in accordance with the demands of "Belief". To some considerations suggested in part by Balfour's "Touristions of Balief" and Hasckel's "Confession of Paith

The growing complexity of civilized life demands with each age broader and more exact knowledge as to the material surroundings and greater precision in our recognition of the invisible forces or tendencies about us. We are in the hands of the Fates, and the greater our activities, the more evident becomes these limiting conditions. The secret of power with man is to know accessions its limitations.

of truth as to the universe and better definition of the truths which are old. Such knowledge, tested and placed in order, we call Science. Science is the gathered wisdom of the race. Only a part of it can be grasped by any one man. Each must enter into the work of men others. Science is the flower of the Altruism of the ares, by which nothing that lives "liveth for itself alone. " The recognition of facts and laws in the province of Science. We only know what lies about us from our own experience and that of others, this experience of others being translated into terms of our own experience and more or less perfectly blended with it. We can find the meaning of phenomena only from our reasoning based on these experiences. All knowledge we on attain or hope to attain must, in so far as it is knowledge at all, be stated in terms of human experience. laws of Nature are not the products of Science. They are the human glimpses of that which the "Law before all time. "

Thus human experience is the foundation of all knowledge.

Even innate ideas, if such ideas exist, are derived in some way

from Knowledge possessed by our ancestors, as innate impulses to
action are related to ancestral needs for action.

But is Human Experience the basis also of Belief as it is of Knowledge?

of truth as to the universe and better definition of as digital which are old. Such knowledge, tested and placed in order, we call Science. Science is the gathered wisdom of the race. Only a part of it can be grasped by any one man. Each must enter in--iA add to work of the chors . Soience is the flower of the Altruism of the sees, by which nothing that lives "liveth for itself Science. We only know what lies about us from our own experience and that of others, this experience of others being translated into terms of our own experience and more or less perfeetly blended with it. We can find the meaning of phenomena only from our researing based on these experiences. All knowat it as we'd on ni jaum misija oj eque no nisjis n o ew exhol enT .sonsiveque namus lo amus in belsis ed .lle is embelwonk laws of Mature are not the products of Science. They are the human glimpage of that which the "Lew before all time. "

Thus human experience is the foundation of all knowledge.

Even innate ideas, if such ideas exist, are derived in some way

from Knowledge possessed by our ancestors, as innate impulses to

action are related to ancestral needs for action.

But is Human Experience the basis size of Selief as it is of

One of the questions of the day is this, Is "To Believe" more than "To Know"? Shall a same man extend Belief in the directions where he has no knowledge and in lines outside the reach of his power to act? Can BELIEF soar in space not traversable by "organized common-sense"? If such distinction is made between "KNOWING" and "BELIEVING", which of the two has precedence as a guide for action? Is Belief to be tested by Science? Or is Science useful only where Belief is indifferent to the subject matter? If Belief is subordinate to the tests of Science, to be accepted or rejected in the degree of its accord with human experience, then it is simply an annex to Science, a foot-note to human experience, and the authority of the latter is supreme. If however, Truth comes to us from sources outside of human experience it must come in some pure form, free from human errors. As such it must claim the first place. In this event the progress of Science will be always on a lower plane than the progress of Belief.

Advancement of Science, the Marguis of Salisbury made in brief this contention. The central thought of Modern Science is Evolution, the change from the simple to the complex. This implies not only the fundamental unity of all life, but the fundamental

One of the questions of the day is this, is "To Believe" more ancisperib and ni lelies breixe man eras a flads twent of man sid lo deser edd obision sent in bus embelword on and ed ered yd eldaerevari fen ensga ni reos TELIEF nab fine of Grewog meavied whem at notionizath days li penses - nommos besine pro-"KNOBING" and skillsving", which of the two has precedence "only oulde for sation? Is Belief to be tested by Science? Or is Solonge useful only where Bellef is indifferent to the subject matter? If Belief is subordinate to the tests of Relence, to be accepted or rejected in the degree of its second with human experience, then it is simply an ennex to Seisnee, a foot-note to himse experience, and the suthority of the latter is supreme. however, fruth comes to us from sources outside of human experience it must dome in some pure form, free from human errors. As such Solonce will be always on a lower plane than the progress of

In a recent address before the Eritish Association for the Advancement of Salabury made in brief advancement of Salabury made in brief this contention. The central throught of Modern Solence is Evolution, the change from the simple to the complex. This implies pot only the fundamental unity of all life, but the fundamental

of the claims of scientific men even the fact of Organic Evolution, is far from demonstrated while of inorganic evolution, the development of the chemical elements, Science can tell us nothing. Wherefore the Marquis, in view of the failure of Science to keep up with the progress of Belief, grows jocose and patronizing. His advice to his scientific associates might be stated in the words of Thackgray that "We should think small beer of ourselves and pass around the bottle."

More recently another English Statesman, Mr. Arthur J. Balfour, has discussed the "Foundations of Belief". He has shown
that the methods of Science cannot give us Absolute Truth. Its
methods are "of the earth, earthy". Its claim of trust in the
infallibility of its own processes has no higher authority than
the claim of infallibility made at times by religious organizations. For as only the senses and the reason can be appealed to
in support of the claims of the senses and the reason, the argument of Science is of necessity reasoning in a circle. Science
can give us no ground solid enough to bear the weight of Belief.
Belief must exist and it may therefore rest on the innate needs of
man and the philosophy which is built on these needs in accordance

onity of all matter, and perhaps of all forests wall. In apite of the claims of she constitute of the chartest of she can tell us noth development of the chambeal elements, Science can tell us nothing.

Ing. Wherefore the marquis, in view of the failure of Science to keep up with the progress of Heliof, grows jocese as percentating.

Ing. His saving to his scientific associates witht be steted in the words of Thackgray that "We stould think small beer of our-salves and page around the bottle."

Nore recomily another English Statesman, Mr. Arinur J. Palfour, has discussed the "foundations of Selief". He has shown
that the methods of Science earnot give us Absolute Truth. Its
methods are "of the earth, earthy". Its claim of treat in the
infallibility of its own processes has no higher suthority than
the claim of infallibility made at times by religious organizations. For as only the senses and the reason can be appealed to
in support of the claims of the senses and the reason, the argudent of Science is of nesessity reasoning in a circle. Science
can give us no ground solid enough to bear the weight of Selief.
each five us no ground solid enough to bear the weight of Selief.
each of must exist and it may therefore rest on the innate needs of
man and the philosophy which is built on these needs in accordance

with the authority which the human soul finds sufficient.

Balfour calls attention to the fact that human experience is not in its essence objective. It consists only of varying phases of consciousness. These phases of consciousness at best only point towards Truth. They are not Truth itself. They vary with the varying nerve cells of each individual creature on whom phases of consciousness are impressed and again with the changes in the cells themselves. The tricks of the senses are well known in Psychology, as is also the failure of the senses as to material outside their usual range. Life is at best "in a dimly lighted room", and all the objects about us are in their essence quite different from what they seem. This essence is unknown and unknowable. We are well aware that we have no power to recognize all phases of reality. The electric condition of an object may be as real as its color or its temperature, and yet none of our senses respond to it. Our eyes give but an octave of the vibrations we call light, and our ears are dull to all but a narrow range in pitch of sound.

Likewise is reason to be discredited. The commonest things become unknown or impossible when viewed "in the critical light of Philosophy." Balfour shows that the simple affirmation "the sun gives light", loses all its meaning and possibility when taken out of the catagory of human experience, and discussed in terms of

with the authority which the human soul finds sufficient.

not in its essence objective. It consists only of varying phases of consciousness. . . These phases of consciousness at best only point towards Truth. They are not Truth itself. They wary with the varying nerve cells of each individual dresture on whom phases of consciousness are impressed and again with the era seemes out to sabits out . . sevisemed; elles out at segment well known in Payonology, as is also the failure of the senses as s ni sed te si elil .enner Leusu ried; ebiatuo lairetam ot unknown and unknowable. We are well aware that we have no power to recomise all phases of reality. The electric condition yet none of our senses respond to it. Our syss give but an octaye of the vibrations we call lish, and our ears are dull to all but a marrow range in pitch of sound.

Likewise is reason to be discredited. The commonest things become unknown or impossible when viewed "in the critical light of Philosophy." Selfour shows that the simple affirmation "the sun fight", loses all its meaning and possibility when taken out of the catagory of human experience, and discussed in terms of

philosophy. In like manner can any simple fact be thrown into the catagory of myths and dreams. A man can be leadby the methods of Metaphysics, to doubt the existence of himself or of any object, about him. For instance, take the discussion of "John's John" and of "Thomas' John", as given by Dr. Holmes. 1s the real John, the John as he appears to Hohn himself? Or is he real only in the form in which Thomas regards him, or as he looks to Richard and Henry whose interest in him is progressively less? All we know of the external universe is through the impressions made directly or indirectly on our nervous systems and through recorded impressions made on the systems of others; and a part of this external universe we ourselves are. All that we know of ourselves is that whichis external to ourselves. Thus with all this, each men forms in his mind a universe of his own. "My mind to me a kingdom is", and this kingdom in all its parts is somewhat different from any other mental kingdom. It is continually changing. It was made but once and will never be duplicated. When my vital processes cease, this kingdom will vanish "like the baseless fabric of a vision, leaving not a wreck behind." Our mind is of the "stuff that dreams are made of" - and our bodies - what are they? Physically each man is an alliance

philosophy. In like menner can any simple fact be thrown into the outagory of myths and dreams. A man can be ledgby the machyes to no lesmid to cometaixe end sduob of estaydasem to abo s'ndol's lo noisausalb and east, constant now .min sueda , sesido John" and of "Thomas' John", as given by Dr. Helmes. Is the real John, the John as a spears to Hohn himself? Or is he real only in the form in which Thomas regards him, or as he looks to Richard and Henry whose interest in him is progressively less? All we know of the external universe is through the impressions denuords bee amassys success two no viscosibni to viscosib ebam recorded impressions made on the systems of others; and a part word ew jady ila .ers sevies un sarevinu isnrejxe sid; to of ourselves is that whichis external to ourselves. Thus with all this, each men forms in his mind a universe of his own. "My al almaq all its mi mobanta aidi bas , "al mobanta's on of balm somewhat different from any other mental kingdom. It is continually changing. It was made but once and will never be duplicated. When my vital processes cease, this kinndom will vanish "like the baseless fabric of a vision, lesving not a wreck behind. " Our mind is of the stuff that dreams are made of" - and our bodies - what are they? Physically each man is an allience of animals, each one of a single cell, each cell with its procasses of life, growth, death and reproduction, each one with its own "cell-soul" which presides over these processes. In the alliance of these cells, forming tissues and organs, we have the phenomena of mutual help and mutual dependence. In man we find the phenemena of animal life on a larger and more differentiated scale, but the fact of self grows faint as our study is continued. What is this vital force, and what have we to do with it, and is it after all more than another name for the movement of molecules? And of what are our cells composed? Carbon. Oxygen, Hydrogen, Hitrogen, we know by name, but what are these in essence and how are they different one from another? Does matter really exist? Mathematicians have claimed that all relations of ponderable matter and force might exist if the atoms of matter were not realities, but simply relations. Each of these atoms in the ether, wase ultimate units have vibration but not attraction. If therefore the body of man be an alliance of millions of animal cells, each cell formed of millions of eddies in an in conveivable and impossible ether; if all things around us are recognized only by their effect on the most unstable part of this unstable structure, then again "let us think small beer of ourselves

philosophy. In like menner den any simple fact be thrown inte the ostagory of myths and dreams. A man can be ledgby the sethods of Metaphysics, to doubt the existence of himself or of any s'adol' to noisausaib add east, constant now .mid fueda , topido John" and of "Thomas' John", as given by Dr. Helmes. Is the real John, the John as re opposes to Hohn himself? Or is he real only in the form in which Thomas regards him, or as he looks to Richard and Henry whose interest in him is progressively less? All we know of the external universe is through the impressions danuords bas amasaya suovien quo no visconibni to viscenib ebam recorded impressions made on the systems of others; and a part wond ow jady ila .ors soviestuo su sarevinu isnrejke sidi to dily sud? .seviesnuo of ismustre sidal w fadt al seviesnuo to all this, each men forms in his mind a universe of his own. "My at almaq att fis mi mobanta atdi bas , "at mobanta's on of baim somewhet different from any other mental kingdom. It is continually changing. It was made but once and will never be duplicated. When my vital processes cease, this kinndom vill vanish "like the baseless fabric of a vision, leaving not a wreck behind. " Our mind is of the stuff that dreams are made of" - and our bodies - what are they? Physically each man is an allience and pass around the bottle. "

Each fact or law must be expressed in terms of human experience, if it is expressed or made intelligible at all. To such terms, the word reality applies, and beyond such reality we have never gone. Apparently beyond it we cannot go, at least in the only life we have ever known. Balfour's plea for "philosophic doubt" of the reality of the subject matter of Science is simply a rhetorical trick of describing the Maknown in terms of the unknown. By the same process we may call a fish-wife an "Abracadabra" or an "losahedron", and by the same process we can build out of the commonest materials "an occult science" or a new theosophy. The messure of a man is the basis of human knowledge. and whatever can be brought to this measure is no part of knowledge In converse fashion Balfour speaks of the unknown in terms of the known; of the infinite in terms of human experience. This gives to his positive foundations of belief an appearance of reality as fallacious as the unreality he assigns to the foundations of of science. This appearance of reality is the base of Hackel's sneer at conventional religion as, belief in a "Gaseous Vertebrate"

It is perfectly easy for Science to distinguish between subjective and objective nerve conditions. It can separate those produced by subjective nervous derangements, or by conditions al-

and page around the bettles."

The state of the s

"Toque named to series at besserque ed teum sai to seat deal. tones of . Ale is eldhilleshi ebem to besser pro at 11)1 .come: known. By the same process we may call a fish-wife an "Abracaembelvons to Jasq on al engagem sids of Jaguard ed has vevelade bas sneer at conventional raligion asy belief in a "naseous "e-tobrate" backt signages hes 31 ... smollings syren eviloside has evilosi

external things. It is perfectly easy for common sense to do the same. To be able to do so is the essence of sanity. The test of Sanity is its liveableness, for insanity is death. The Borderland of Spirit of which we have so mask often of late, the land in which subjective and objective creations jostle each other is the porderland of Death. The continued existence of animals and men as based on the adequacy of their sensations and the veracity of their actions. The existence of any creature is, in general, proof of the sanity of its ancestry, or at least, of the the sanity of those who controlled the actions of its ancestors.

This veracity is gauged by the degree of coincidence of subjective impressions and objective truth. Who so makes a fool's paradise or a fool's hell of the world about him is not allowed to live in it. This fact in all its bearings must stand as a proof that the universe is outside of man and not within him. In this objective universe which lies outside ourselves we find "the ceaseless flow of force and the rational intelligence that pervades it." No part of it can be fully understood by us, but in it we find no chance movement, "no variableness nor shadow of turning." That such a universe exists seems to demand some intelligence capable of understanding it, of stating its proper-

This versoity is gauged by the degree of coincidence of subjective impressions and objective truth. Who so makes a fool's paradise or a feel's helt of the world about him is not allowed to live in it. This fact in all its bearings must stand as a proof that the universe is outside of man and not within him. In this objective universe which lies outside ourselves we find "the ceaseless flow of force and the rational intelligence that the find no chance movement, "no variableness nor shadow of turning." That such a universe exists seems to demand some intelligence capable of understending it, or stating its proper-

ties in terms of absolute truth, as distinguished from those of human experience. Only an infinite Being can be conceived as doing this, hence such Knowledge must enter into our conception of the Infinite Being, whatever may be our Theology in other respects. For to know an object or phenomenen in its fullness, "all in all", "we should know what God is and man is." Hit is there fore no reproach to human Science that it deals with human relations, not with absolute truths. "The ultimate Truths of Science, " Dr. Schurman has said, "rest on the same basis as the ultimate Truths of Philosophy," that is, on the basis that transconds human experience. This is true, for Science has no "Ultimate Truths. " There are none known to man. "The perfect Truth, " says Lessing, "is but for Thee alone." With ultimate truths human philosophy tries in some fasion to deal. To look at the Universe in some degree through the eyes of God is the aim of philosophy. In its aim it is most noble. Its efforts are a source of strength in the conduct of human life. But its conclusions are not truth. They range from the puerile to the incomprehensible, and Science, that is / "common sense", only can distinguish the two. For this reason just in proportion as philosophy is successful, it is unfit as a basis of human action. Human knowledge and action have limitations. The chief of these

lo seeds mort bedsinguistb as distinguists to amps at seis buman experience. Only an infinite Being can be conceived as of the infinite Being, whatever may be our Theology in other respecie. For to know an object or phenomenan in its fullness, si ji P ".si nam bus si bon jamw wonk bluons aw" ."Lis ni ils" there fore no represent to human Solence that it deals with human To shirt signifu ente . Shirts signods hit ion . Shortsler Solonce," Dr. Schurman has said, "rest on the same basis as the ultimate Truths of Philosophy, " that is, on the basic that transconds human experience. This is true, for Science has no "Ultimate Truths. * There are none known to man. *The parfect Truth, " says Lessing, "is but for Thee slone." With ultimate truths hamen philosophy tries in some fasion to deal. To look at the Universe in some degree through the eyes of God is the aim of philosophy. In its sim it is most noble, lits efforts are a source of strength in the conduct of human life. But its conclusions are not truth. They range from the puerite to the incomprehensible, and Science, that is scommon sense", only can dis--off .mollos nemud lo sissed a am filmu at fi .fulsasosus at videsol man knowledge and action have limitations. The chief of these

is that whatever cannot be stated in terms of human experience is unintelligible to man. Whatever cannot be thought cannot be lived.

Philosophy has its recognized methods of procedure. Those are laid down in the mechanism of the human brain itself. Science has found these methods untrustworthy as a means of reaching objective truth. The final test of scientific truth is this. Can we make it work? Can we trust our life to it? This test the conclusions of philosophy cannot meet. In so far as they do so they are conclusions of Science. As Science advances in any field philosophy is driven away from it. The fact has been often noted, that every great conclusion of Science has been anticipated by Philosophy, most of them by the philosophy of the Greeks. But every theory science has shown to be false has been likewise anticipated. The Greeks taught the theory of Development centuries before Darwin. But if Darwin's studies in life variation had led to any other result whatsoever, he would have been equally anticipated by the Greeks. In other words, every conceivable guess as to the origin and meaning of familiar phenomena has been exhausted by philosophy. Some of these guesses contain elsments of Truth. Which of these hasesuch elements it is the business of Science to find out. Philosophy has no means of doing so.

is that whatever cannot be stated in terms of human experience is unintelligible to man. Whatever cannot be thought cannot be lived.

ere laid down in the mechanism of the human brain itself. Solence has found these methods untristworthy as a me ins of reaching obgootige truth. The final test of seismilfic truth is this. Can conclusions of philosophy cannot m st. In so var as they do so they are conditaions of Soiends. As Soiends any any neffo need san Jeaf ent . Ji mort ways nevirb at viquacility bleit by Philosophy, most of them by the philosophy of the Greeks. But olpated. The Greeks taught the theory of Development centurnolselve Darwin. But if Darwin's studies in life vertation anticipated by the dreams, in other words, every conceivable exhausted by philosophy. Some of these guesses contain alsnoss of Soi nee to find out. Philosoppy has no messe of deing so.

A truth not yet shown to be true is in science not a truth. has no more validity than any other generalization not shown to be false. Helmholtz tells us that Philosophy deals with such "Schlechtes Stoff", such bad subject matter, that it can give no trustworthy conclusions. Science alone can give the test of human life. The essence of this test is Experiment. H The tests of philosophy are mainly these: Is the conception plausible? Has it logical continuity? Is it satisfying to the human heart? And in this connection the figurative word "Heart" is best left In other words, its sources and its tests are alike subjective, intellectual, or emotional. If we take from philosophy the "heart" element, the personal equation, it becomes Logic or Mathematics. Mathematics is Metaphysics working through methods of precision. It is a most valuable instrument for the study of the relations and ramifications of knowledge, but it can give James, defines Metaphysics no addition to knowledge itself. as"the persistent attempt to think clearly." This definition is good so far as it goes, but to think clearly is a function of Science also. Metaphysics is rather the "attempt to think clearly" in fields where exact data are unattainad or unattainable. In s so far as Philosophy is simply clear thinking it is a most valuable agency for testing the deductions of Science. But while it

A truth not yet shown to be true is in science not a truth. has no more validity than any other generalization not shown to be felse. Helmholtz tells us that Philosophy deals with such eschies store, and bed subject matter, that testineline? trustworthy conclusions. Science alone can give the test of human life. The cesence of this test is Experiment. If The tests of philosophy are mainly these; Is the conception plansible? Has it logical continuity? Is it satisfying to the human heart? And in this connection the figurative word "Heart" is beet left underined. In other words, its sources and its tests are slike subjective, intulfectual, or emobional. If we take from philosophy the "heart" element, the personal equation, it becomes logic or Mathematics. Mathematics is Metaphysics working through methods of passision. It is a most valuable instrument for the study evig man if tud , egbelword to enciteditimer bus anditaler of to no addition to knowledge itself. Dr. James, defines Metaphysics as "the persistent strengt to think elearly." This definition is good so far as it goes, but to think clearly is a function of Science also. Metaphysics is rather the attempt to think clearly in fields where exact date are unattained or unattainable. In a eldaulay Jeom s at it animint reals vigmis at viggeofid? as rat os agency for testing the deductions of Science. But while it

can reject false conclusions, it can add no new matter of its own.

For example, the claim its makes on the name of Evolutionary philosophy that allowatter is one in essence, therefore all the Chemical elements, some seventy in number, must be the same in substance. In this case, all must be derived from the same primitive stuff, and the hypothetical basis of all ponderable matter has been called Protyl. As a working theory this is most ing mious. But is it Science? Is it worthy of belief? Certainly Science knows nothing as yet of the identity of these eloments. In a general way Science is finding out that the processes of nature are more complex than man supposed, while the elements on which these processes rest, matter and force, are more simple. How far can this generalization go? To every test human experience has devised, each chemical element remains the same, its atoms unchangeable as well as indestructable . fore to speak of them as forms of one substance is to go beyond knowledge. Science does not teach this. But to Philosophy this offers difficulty. It is still plausible to suppose that by some combination of primitive units, these variant atoms are formed. Such an idea would have logical continuity, and as we are becoming used to the notions of primal unity, we find such an

can reject false conclusions, it can add no new matter of its own. For example, theclaim to make on the name of Evolutionary philosophy that all matter is one in essence, therefore all the substance. In this case, all must be derived from the same matter has been called Protyl. As a working theory this is Rietled in adjace ti el Popneios ji al jud . suoim gai jaom dertainly Science knows nothing as yet of the identity of theses elements. In a general way Science is finding out that the elements on which these processes rest, metter and force, are more human experience has devised, each chemical element remains the saume, its atoms unchangeable as flow as eldseynadonu amoja eji . www. fore to speak of them as forms of one substance is to go beyond knowledge. Science does not teach this. But to Philocophy this offere difficulty. It is still plausible to suppess that by some combination of primitive units, these variant atoms are formed. Such an idea would have logical continuity, and as we are becoming used to the notions of primal unity, we find such an

idea satisfying to our consciousness. If this is true, somewhere, somehow, lead will be resolved into its primal elements,
and these elements may be united in the form of gold. Then will
the dream of the alchemist become fact. But Science must make
this objection: "Not until then." Such transmutation is as
yet no part of knowledge. We certainly do not know that lead
can be changed into that which is transmutable into gold. We do
not know it, I say; but may we believe it? Is the foundation of
Belief less secure than that of Knowledge? Can we trust Philosophy to tell us what to believe, while we must look to Science to
tell us what we know?

This brings us to the question of definitions. If knowledge and belief are of like rank, both must rest on science and the results of philosophy must come to science only as hints or suggestions as to five lines of research.

tion of the two is also clear. In that case Belief would be a word of light meaning, expressive of whim or of the balance of opinion. Such weight as it has would be drawn from its association with prejudice. Belief would then be the pretence of knowledge, as compared with knowledge itself. Along its paths

ides satisfying to our consciousness. If this is true, somewhere, somehow, lead will be resolved into its primal elements,
and these elements may be united in the form of gold. Then will
the dream of the slohemist become fact. But Science must make
this objection: "Not until then." Such transmutation is as
yet no part of knowledge. We certainly do not know that lead
out for other that which is transmutable into gold. We do
not know it, I say; but may we believe it? Is the foundation of
selief less secure than that of knowledge? Can we trust Philosophy to tell us wint to believe, while we must look to Science to

This brings us to the question of definitions. If knowledge and belief are of like rank, both must rest on ecience and the re-sults of philosophy must come to science only as hints or suggestions as to forms as to forms of research.

If Knowledge implies stability and Belief does not, the relation of the two is also clear. In that case Belief would be a
word of light meaning, expressive of whim or of the belence of
opinion. Such weight as it has would be drawn from its association with prejudice. Belief would then be the pretenge of knowledge, as compared with knowledge itself. Among its paths
life cannot march with courage and effectiveness. It is not for

inspiration was the positive belief of Science or the negative belief of the falsety of the ideas, tyranny or superstition had forced upon them. To avoid a discussion foreign to my puppose, I wish if possible to separate the word Belief - as used in this paper from the word Religion. The essence of Belief is the catagorical statement of propositions. These may be built into a creed, which word is the Latin synonym of belief.

Religion implies rather a condition of the mind and heart, an attitude, not a formula. Faith, Hope, Charity, do not rest on Logic or Observation. Religion implies a reverent attitude towards the universe and its forces, - a kindly feeling towards one's fellow mortals and immortals.

has never claimed for itself Orthodoxy. It has no stated ritual and no recognized cult of priests. Much that passes conventionally as religious belief among men, has no such quality or value. It is simply the debris of our grandfathers science. While religion and belief become entangled in the human mind, so as not to be easily separable; the one is not necessarily a product of the other. In the higher sense no man can follow or inherit the religion of another. His religion if he has any is his own. Only

such beliefs as this that the markyrs have lived or died. Their daspiration was the positive belief of Seience or the negative belief of the falsety of the ideas, tyranny or superstition bad forced upon them. A to avoid a discussion foreign to my puppose, I wish if possible to separate the word Selief - as used in this paper from the word Seliefs. The essence of Selief I the catarger is statement of propositions. These may be built into a greed, which word is the latin synonym or belief.

Religion implies rather a condition of the mind and heart, an attitude, not a formula. Faith, Hope, Charity, do not rest on logic or Observation. Religion implies a reverent attitude towards the universe and its forces, - a kindly feeling towards one's fellow mortals and immortals.

Pure religion and undefiled" has never formulated a ereed and never elained for itself Orthodoxy. It has no stated ritual and no recognized cult of priests. When that passes conventionally as religious belief among men, has no such quality or value. It is simply the debris of our grandfathers science. While religion and belief become entangled in the human mind, so as not to be easily separable; the one is not necessarily a product of the other. In the higher sense no men can follow or inherit the religion of encirer. His religion if he has any is his own. Only

forms can be transferred; realities never, for realities in life are the product of individual thought and action.

As the third of these efforts to discredit science I have placed Professor Haeckel's recent address, "The Confessions of Faith of a Man of Science." This remarkable work is an eloquent plea for the acceptance of the philosophic doetrine of Monism as the fundamental basis of Science. This doctrine once adopted we have the basis for large deductions, which forestell the slow conclusions of Science; for Monism brings the necessity for the belief in certain scientific hypotheses resting as yet on no foundations in human experience, incapable as yet of scientific verification, but which are a necessary part of the Monistic creed. The primal conception of Monism is first, "that there lives one spirit in all things, and that the whole cognizable world is constituted and has been developed in accordance with one common fundamental law." This involves the essential oneness of all things, matter and force, object and spirit, nature and God. This philosophical conception of Monism and Pantheism cannot be made intelligible to us, because it can be stated in no terms of human exprience. But it has certain necessary derivatives, according to Haeckel, and these are intelligible, bacause their subject matter is available for scientific experiment.

forms can be transferred; realities never, for realities in life

aven I sometos diberosib of strolle scent to buint and al design and those are intelligible, because their subject matter First among these postulates, called by Haeckel, "Articles of Faith" comes "The essential unity of organic and inorganic nature; the former having been evolved from the latter only at a relative—ly recent period." This involves the "spontaneous generation" of life from inorganic matter. It also resolves "the vital force" or the force which appears in connection with protoplasmic structures, into properties shown by certain Carbon compounds under certain conditions. Life is thus in a sense an emanation of Carbon, "the true maker of life" according to Haeckel "being the tetraedral carbon molecule."

This "Article of Faith" implies also the unity of the chemical elements, each of which is a product of the evolution of the primal unit of matter and face. Force and matter are likewise one, because neither appears except in the presence of the other. The inheritance acquired characters is also made a corollary of Monistic belief.

Now all these hypotheses are possibly true, but none of them are as yet conclusions of Science. They meet the conditions required by philosophy. They are plausible. They have the merit of logical continuity, and, excepting to those persons biased by early subjection to contrary notions, they satisfy the "human heart". Here should be no natural repugnance to Moniem or to

Pu

First among these postulates, called by Hasekel, "Artisles of Faith" comes "The essential unity of organic and inordanic nature; the former having been evolved from the latter only at a relative-ly recent period." This involves the "spontaneous generation" of life from inorganic matter. It also resolves "the vital force or the force which appears in connection with protoplasmic structures, into properties shown by certain Carbon compounds ander contain conditions. Life is thus in a sense an emenation of Carbon, "the true maker of life" according to Hasekel "being the tetraedral carbon molecule."

This "Article of Faith" implies also the unity of the chemical elements, each of which is a product of the evolution of the
primal unit of matter ent inseed. Force and matter are likewise
one, because notther appears except in the presence of the other.
The inheritance acquired characters is also made a corollary of

Now all these hypotheses are possibly true, but none of them are as yet conclusions of Science. They meet the conditions required by philosophy. They are plausible. They have the merit of logical continuity, and, excepting to those persons binged by early subjection to contrary notions, they satisfy the "human heart".

Pantheism, difficult as it is to associate the idea of truth and reality with either - or with the opposite of either. Speaking for myself, I feel no repugnance against them. They lend themselves to poetry; they appeal to the human heart. In Haeckel's own words referring to something else: "Such hereditary articles of faith take root all the more firmly, the further they are removed from the rational knowledge of nature, and enveloped in the mysterious mantle of mythlogical poesy." The present resistance to them may in time be turned into superstitious revenence for them For of all the philosophic doctrines brought down as lighting from Heaven for the guidance of plodding man these seem most attractive, and least likely to conflict with the conclusions of science.

But can we give them belief? Let us pass by the doctrine of Monism, with which science cannot concern itself. What of the Corollaries? Spontaneous generation, for example, has been the basis of many experiments. Like the transmutation of metals, it seems reasonable to Philosophy. The one idea has been the will-e-me wisp of Biology as the other has of Chemistry. We know absolutely nothing of how, if ever, non-life becomes life. So far as we know, generation from first to last has been one unbroken series - all life from life. We have no reason to be-

Panthelem, difficult as it is to associate the idea of truth and reality with either - or with the opposite of either. Speaking for myself, I feel no repugnance example them. The lend themselves to postry; they appeal to the human heart. In Haedkel's own words referring to something else: "Such hereditary articles of faith take root all the more firmly, the further they are removed from the rational knowledge of nature, and enveloped in the mysterious mantle of mythlogical possy." The present resistance to them may in time be turned into superstitious revenence for them heaven for the guidance of plodding man these eem most sitractive, and least likely to conflict with the conclusions of science.

But can we give them belief? Let us pass by the doctrine of Moniem, with which science cannot concern itself. What of the Gorplanies? Spontaneous generation, for example, has been the basis of many experiments. Like the transmitation of metals, it seems reasonable to Philosophy. The one idea has been the will-e-the wisp of Biology as the other has of Chemistry. We know absolutely nothing of how, if ever, non-life becomes life. So far as we know, generation from first to last has been one umbroken series - all life from life. We have no reason to be-

lieve that spontaneous generation exists under any conditions we have ever xxxx known. We have likewise reason to believe that if it exists at all we have no way of recognizing it. The organisms we know have all had a long history. Even the smallest shows traces of a long ancestry, a long process of natural selection, and of many concessions to invironments. We know of no life that does not show such concessions. We know no creature that does not show homologies with all other living beings whatsoever. So far as this fact goes, it tends to show that all life is one. If this is true, spontaneous generation, whatever it may be, is not one of the ever-present phenomena of life.

fresh from the mint of creation nowaappear from inorganic matter, they are so simple that we cannot know them. They are so small that we cannot find them. They would be made, we may suppose, each of a small number of molecules. If there is thuth in the calculations of Lord Kelvin and others, that a molecule is as small in a drop of water as a marble in comparison with the earth, then we may not look for these creatures. If we cannot find them we do not know that they exist. If we do not know that they exist, shall we "belfive" that they do? Is it not better, as Emerson suggests, that we should not "pretend to know

have ever maga known. We have likewise reason to believe that shows traces of a long ancestry, a long process of natural selegition, and of many concessions to invironments. We know of seever. So fer se this fact goes, it tends to show that all life is one. If this is true, spontaneous reneration, chatever it mey be, is not one of the ever-present phenomena of life. Tr life does now appear without living parentage; if organisms from the mint of creation norsappear from inorganic metter, they are so simple that was sampt know them. They are so -que vam ew .ebam ad Bluew wedl .meds ball jonnes em jad libus in the calculations of Lord Kelvin and others, that a molecule is as small in a drop of water as a marble in comparison with the esrih, then we may not look for these creatures. If we dennot find them we do not know that they exist. If we do not know that they exist, shall we "bolfdwe" that they do? Is it not bet-

ter, as Emerson suggests, that see should not "prefend to know

and believe what we do not really know and believe?"

It may be that the eexistence of life in a world once lifeless renders Spontaneous Generation a "logical necessity." But
the "logical necessity" exists in our minds, not in nature.

Science knows no "logical necessity" for the simple reason that

kmer are never able to compass all the possibilities in any given
case.

If we are to apply philosophic tests to the theories of Reincarnation we may find them equally exxists eligible as articles of belief. They are plausible, to some minds at least; they have logical continuity. They are satisfying to the human heart, at least this is claimed by their advocates. Their chief fault is that they can be brought to no test of Science and have no basis in inductive knowledge. In other words their only reality is that of the vapors of dreamland. If plausibility and acceptability serve as sufficient foundations for Belief, then Belief itself is a frail and transient thing, no more worthy of respect than prejudice, from which indeed it could not be distinguished. Some such idea as this seems to be present in the mind of Mr. Gladstone. In a recent article, quoting in part the language of the honest Bishop Butler, he ascribes to certain doctrines "a degree of credibility sufficient for purposes of

and believe what we do not really know and believe?"

It may be that the sexistence of life in a world once lifeloss renders Spontaneous Generation a "logical necessity." But
the "legical necessity" exists in our minds, not in nature.

Science knows no logical necessity for the simple reason that
inaxx are never able to compass all the possibilities in any given

of belief. They are plausible, to some minds at least; they fault is that they can be brought to no test of Science and have no bests in inductive knowledge. In other words their only and acceptability serve as sufficient foundations for Welief, then to valvow erom on , gaid; inelensia bas frait a at fleet telles respect than prejudice, from which indeed it could not be distinguished. Some such idea as this seems to be present in the mind of Mr. Gladstone. In a recent article, quoting in part the language of the honest Bishop Butler, he ascribes to certain doctyines "a degree of credibility sufficient for purposes of

roligion and even a high degree of probability. In other words, Relegion which deals with human life and hopes and fears has less need of certainty than Science which is ultimately concerned with human action.

Haeckel makes the same distinction clearly enough. uses the term "Belief" for "hypotheses or conjectures of more or less probability" by which "the gaps empirical investigation must leave in Science, are filled up, " "These", he says, "we cannot indeed for a time establish on a secure basis, and yet we may make use of them in the way of explaining phenomena, in so far as they are not inconsistent with the rational knowledge of nature. Such rational hypotheses" fe says "are scientific articles of faith". It is not clear, however, that so large a name as faith need be taken for working hypotheses confessedly uncertain or transient. The word "make-believe" used by Huxley in some such connection might well be applied to hypothetical "articles of faith", until given a basis by Scientific Induction. But it seems to me that it is not necessary for the man of Science to say "T believe", in addition to "I know". He should put off the livery of the Delphian oracles.

That all the doctrines above mentioned are necessarily included in Monism may perhaps be doubted. Monism would still religion and even a high degree of probability. "In other words, Relegion which deals withhuman lease and feare has less need of certainty than Science which is ultimately concerned with imman action.

Hasokel makes the same distinction clearly enough. uses the term "Belief" for "hypotheses or conjectures of more or less propability" by which "the gaps empirical investigation must leave in Science, are filled up, " "These", he says, "we cannot indeed for a time establish on a secure basis, and yet we may make use of them in the way of explaining phenomena, in so far se they are not inconsistent with the rational knowledge of nature. Such rational hypotheses" He says "are scientific articles of diel se eman a syraf os jad; tevewor, taste a name as faith need be taken for working hypotheses confessedly uncertain or The word "make-believe" used by Huxley in some such transfent. connection might well be applied to hypothetical "articles of faith", until given a basis by Scientific Induction. But it seems to me that it is not necessary for the man of Science to say "T pelieve", in addition to "T know". He should put off the livery of sience when he enter the service

-ni vilasseen ers beneitnem evode senirtoob ent ils tenT

Ilits bloow meinem .bejdoob ed squireq yem meinem would etill

flourish were all these theories disproved. For human philosophies have wonderful recuperative po wer. Their basis is in the
structure of the brain itself, and external phenomena are only
accessory to them.

If Monism is purely philosophic conception, it can have no necessary axioms or corrolaries, except such as are involved in its definition. These could not be scientific in their character, because they could in no way come into relation with the realities of life. If, however, Monism be a generalization resting in part on human experience, then it must be tested by the methods of Science. Until it is so tested, however plausible it may be, it has no work sble value. There is no gain in giving it Belief or in calling it Truth. Still less should we stultify ourselves by pinning our faith to its postulates as to the matters yet to be decaded by experiment and to be settled by human experience only. Hackel says, for example: "The inheritance of characters acquired during the life of the individual is an indispensable axiom of the monistic doctrine of Evolution." who with Weismann and Galton deny this entirely exclude thereby the possibility of any formative influence of the outer world upon

Clourish were all these theories disproyed. For human philosophies have wonderful recuperative po wer. Their basis is in the structure of the brain itself, and external phenomena are only accessory to them.

If Montam is purely philosophic conception, it can have no nt beviownt ers as hous tgeoxe. except such as are involved in -sereds wied; at allignelse ad jon bluos esent . notificiteb eti ent film meltaler otal emos yaw on al bluce year sausped , ret noiteallarenes e ed mainoM , revewor , lo . sellisetion resting in part on human experience, then it must be tested by -leggla revewed, bejset 'es at it find . someles to abodies add ble it may be, it has no work shie value. There is no gain in giving it Belief or in calling it Truth. Still less should we stultify ourselves by pinning our faith to its postulates as to the manual yd belijes ed oj bna ineminegze yd bebieeb ed oj jey srejjem experience only. Hasdmal says, for example: "The inherit mos -ni na al lambivibni edi le elil edi gni un berimpoa erejacrado lo esonT" ".notsulova to entrisob stistnom ent to motes eldsenegath who with Welsmann and Gelton deny this entirely exclude thereby the possibility of any formative influence of the outer world upon Organic Form." Here we may ask, Who knows that there is any such formative influence? What do we know of this or any other subject beyond what in our investigations we find to be true? When was Monism a subject of special revelation, and with what credentials does it come, that one of the greatest contraversies in modern science should be settled by the simple word? "Roma locuta est; causa finita est" is a dictum no longer heeded by Science.

The great bulk of the arguments in favor of the heredity of acquired characters, as well as most of those in favor of the opposed dogma, the unchanged continuity of the germ-plasm, are based on some supposed logical necessity of philosophy. All such arguments are valueless in the light of fact. Desmarest's suggestion to the contending advocates of Neptunism and Plutonism was "Go and see". When they had seen the action of water and the action of heat, the contest was over. For argument and contention had vanished in the face of fact. To believe without foundation is to discredit knowledge. Such "Confessions of Faith" on Haeckel's part lead one to doubt whether in his zeal for Belief he has even known what it is to know. In fact if we may trust his critics, much of Haeckel's scientific work is vitiated by this mixture of "believe" and "make-believe". The same confession is

Organic Form." Here we may ask, fwho knowe that there is any -dio yns we sidd to wond ew ob dadw feeneufini evidence doue feuri ed of buil ew encliagifsevul wo ut fanw buoyed feetue? -ers jedw djiw bns ,noijslever laiseqe to joetdus a melnoM saw nedW dentials does it come, that one of the greatest contraversies in aduool amon" ?brow elquis and yd belijes ed bluods coneles mrebom est; causa finita est"is a dictum no longer heeded by Solence. To wisher of the arguments in favor of the heredaty of -qo ed; le vovel al esodi le most el lew es . evelostede berlupos on some supposed logical necessity of philosophy. All such -gus a 'Jeersmeed . Jest to Jight of the leader ors einemugra gestion to the contending advocates of Reptunism and Plutonism was "Go and see", When they had seen the setion of water and the action of heat, the contest was over. For argument and conten--nuol juodik eveiled of .iosl lo east end in bedsime v Dad noid dation is to discredit knowledge. Such "Confessions of Faith" on Hasokel's part lead one to doubt whether in his seal for Belief he has even known what it is to know. In fact, if we may trust sids yd besaldiv si know ollisaeles s'iskesh lo doom , solstro sid ai noiseinos emas enT ."aveiled-exame confesion le saus xim Shown

in this remarkable passage which President White quotes
from John Henry Newman: "Scripture says that the sun moves
and the earth is stationary and Science that the earth moves
and the sun is comparatively at rest. How can we determine which of these opposite statements is the very truth
till we know what motion is? If our idea of motion is
but an accidental result of our present senses, neither
proposition is true and both are true; neither true philosophically; both true for certain practical purposes in the
system in which they respectively found."

Again if we are to allow the revision of the generalizations of Science by the addition of acceptable but unverified doctrines we must allow the right of similar revision by rejection. Mr. Wallace, for example, would be justified in adding to the certainties of organic evolution, his idea of the special creation of the mind of man. The old notion of the separate existence of the Ego, which p lays on the nerve cells of the brain, as a musician of the keys of a piane, would still linger in Psychology. The astral body would hover on the verge of Physiology, and a strong plea would go up for the reality of Santa Claus.

in this remarkable passage which President White quotes in the seven mus end that says erusques "Soripture says that the earth moves and the earth is stationary and Solende that the earth moves and the sun is comparatively at rest. How can we determine which of these opposite statements is the wery truth at notion of the the motion is?

but an accidental result of our present senses, neither true philosoproposition is true and both are true; neither true philosophically; both true for certain practical purposes in the
system in whach they respectively found."

Again if we are to allow the revision of the generalingtions of Science by the addition of acceptable but unvertfied doctrines we must allow the right of similar revision
by rejection. Mr. Wallace, for example, would be justified in adding to the certainties of organic evaluation, his
ides of the special creation of the mind of man. The old
notion of the separate existence of the Ego, which p lays
on the nerve cells of the brain, as a musician of the keys
of a piane, would still linger in Psychology. The astral
body would hover on the verge of Physiology, and a strong
plea would go up for the reality of Santa Claus.

I have a scientific friend who finds it necessary to exclude by force, from his Biological beliefs, all that is unpleasant in the theoryses of evolution. And he has the same right to do this that Professor Haeckel has to insist that any scientific beliefs, for which science has yet no warrant, are a necessary part of the orthodoxy of Science.

For Haeckel is not content to speak for himself, asking tolerance by tolerance towards others. His belief is no idiosyncracy of his own. He speaks for all. Every honest, intellagent, courageous scientific man, he tells us, so far as he is truth
ful, competent, and brave shares the same belief. His confession
of faith is nothing if note Orthodox. He says:

"This monistic confession has the greater claim to an unprejudiced consideration, in that it is shared, I am firmly convinced, by at least nine-tenth of the men of science now living; indeed, I believe, by all men of Science in whom the following four conditions are realized: (1) Sufficient acquaintance with the various departments of natural science, and in particular with the modern doctrine of evolution; (2) Sufficient acuteness and clearness of judgment to draw, by induction and deduction, the necessary logical consequences that flow from such empirical knowledge;

ebulaxs of wasassen it shall one friend and it necessary to exclude by force, from his Biological beliefs, all that is unpleasant in the theorgestof evolution. And he has the same right to do this that Professor Hasokel has to insist that any solentific beliefs, for which solenos has yet no warrant, are a necessary port of the orthodoxy of Solence.

For Haedkel is not content to speak for himself, asking tolerance by telerance towards others. His belief is no idlosynoracy of his own. He speaks for all. Every honest, intelliggent, courageous scientific men, he tolls us, so far as he is truth ful, competent, and brave shares the same belief. His confession teres of .xobodino dion li maidion ai disa lo -erquu na os misio resaera ens asd noisselnos elstinom aidl" judiced consideration, in that it is shared, I am firmly convinced, by at lesst nine-tenth of the mem of science new living; indeed, I believe, by all men of Science in whom the following four conditions are realized: (1) Sufficient acquaintance with the various departments of natural science, and in particular with the -rapid bus assuming the confident (2) sufficient scuteness and clearness of judgment to draw, by induction and deduction, the necessary logical consequences that flow from such empirical knowledge; (3) Sufficient moral courage to maintain the monistic knowledge, so cained, against the attacks of hostile dualistic and pluralistic systems; and (4) Sufficient strength of mind to free himself by sound, independent reasoning, from dominant religious prejudices, and especially from those irrational dogmas which have been firmly lodged in our minds from earliest youth as indisputable revelations.*

Against such assumption we must protest. I have nothing against the doctrines save that they are not yet true. In themselves, as I have said, they are attractive. One map naturally feel a hopeful interest in wide reaching theories which seem possible, but are still unproved or unworkable. This is, however, not "Belief." It is rather open-mindedness, open to negative evidence as well as to the positive.

As Science goes wherever the facts lead, so Science must stop where the facts stop. It can not add to its methods the running high jump, nor place the divining rod with the microscope, crucible, and calculus among its instruments of precision. Beyond the range of scientific knowledge extends the working and the unworkable hypotheses. Beyond the confines of these extends the universe of the mind, the boundless realm which is the abode of Phi-

(3) Surficient moral courage to maintain the monistic knowledge, so calded, against the attacks of hostile dualistic and pluralistic systems; and (4) Sufficient atrength of mind to free himself by sound, independent reasoning, from dominant religious prejudices, and expecially from those irrational dogmas which have been firmly lodged in our minds from carliest youth as indisputable revelations.

Against such assumption we must protest. I have nothing sgainst the destrines save that they are not yet true. In themselves, as I have said, they are attractive. One maps naturally feel a hopeful interest in wide reaching theories which seem possible, but are still unproved or unworkable. This is, however, not spelief. It is rather open-mindedness, open to negative swidence as well as to the positive.

As Soience goes wherever the facts lead, so Soience must stop where the facts stop. It can not add to its methods the running high jump, nor piace the divining rod with the microscope, crucitate, and calculus emong its instruments of precision. Beyond the range of scientific knowledge extends the working and the unwork-sable hypotheses. Seyond the confines of these extends the unit-verse of the mind, the boundless realm which is the abode of Phi-

losophy. None should better realize these distinctions than men of Science.

The primal motive of Science is to regulate the conduct of

life. This is in a sense its ultimate end, for it is the first

and the last function of the senses and he intellect. If

science has any message to man it is expressed in these words of

Huxley: "There can be no alleviation of the sufferings of man
absolute

kind except in varacity of thought and action and a resolute facing

of the world as it is, with all the garment of make-believe

thrown off."

"Still men and nations reap as they have strewn". The history of human thought is filled with the rise of philosophic doctrines, laws, and generalizations hot drawn from human experience and not sanctioned by science. The attempt to use these ideas as a basis of human action has been one of the most fruitful sources of human misery. It is true that wrong information may sometimes become the basis of right action, as falsehood may secure obedience to a natural law which might otherwise be violated.

But in the long run men and nations pay dearly for every illusion they cherish. For every sick man healed at Denver or Lourdes ten well men will be made sick. Faith cures and patent

losophy. None should better realize these distinctions then men of Science.

The primal motive of Science is to regulate the conduct of
life. This is in a sense its ultimate and, for it we the first
and the last function of the senses and he intellect.

Science has any measure to man it is expressed in these words of
Huxley: "There can be no alleviations of the sufferings of manabsolute
Aind except in verseity of thought and action and a resolute facing
of the world as it is, with all the garment of make-believe

"Still men and nations resp as they have edrewn". The history of human thought is filled with the rise of philosophic doctrines, laws, and generalizations not drawn from human experience and not asnotioned by solence. The attempt to use these ideas as a basis of human action has been one of the most fruitful sources of human misery. It is true that wrong information may sometimes become the basis of right sotion, as falsahood may ascure obedience to a natural law which might otherwise be vic-

But in the long run men and nations pay dearly for every illusion they cherish. For every sick men healed at Denver or Lourdes ten well men will be made sick. Faith ourse and patent

medicines feed on the same victims. For every Schlatter who is worshipped as a Saint some equally harmless lunatic will be burned as a witch.

And now we turn for a moment to the positive side of scientific belief.

I was walking not long ago in the garden with a little girl
to whom I told James Whitcomb Riley's story of the "goblins that
get you if you don't watch out", - a story supposed to be peculiarly attractive to children. "But there isn't any such thing as
a goblin," said the practical little girl, "and there isn't ever
going to be area, such thing." Mindfal of the arguments of Borkeley and Balfour, I said to her in the spirit of philosophic
deubt: "Maybe there isn't any such thing as anything, Barbara?"
"Yes, there is," sha said, such a thing as anything", and she looked about her for unquestioned reality, "there is such a thing as
anything; there is such a thing as a squash."

And in this conclusion of the little girl, the reality of the objective world, the integrity of Science, and the sanity of man are alike bound up. And for its evidence, if we are not confined to Balfour's argumentain a circle, we may look to the facts of Organic Evolution, of which the existence of man is a part.

Each living being is a link in a continuous chain of life,

medicines feed on the same victims. For every Schlatter who is worshipped as a Saint some equally harmless lunatic will be burned as a vitch.

And now we turn for a moment to the positive side of scienti-

I was walking not long ago in the garden with a little girl to whom I told James Whitcomb Riley's story of the "goblins that get you if you don't watch out", - a story supposed to be peculiarly attractive to children. "But there isn't any such thing as a goblin," said the practical little girl, "and there isn't ever going to be wash such thing." Mindful of the arguments of Rerectley and Balfour, I said to her in the spirit of philosophic doubt: "Maybe there isn't any such thing as snything, Barbaraf" "Yes, there is," sha said, "such a thing as snything, sard she looked about her for unquestioned reality, "there is such a thing as

And in this conclusion of the little girl, the resilty of the objective world, the integrity of Science, and the sanity of man are alike bound up. And for its evidence, if we are not confined to Ealfour's argumentain a circle, we may look to the facts of Organic Evolution, of which the existence of mun is a part.

Rach living being is a link in a continuous coain of life,

going back in the past to the unknown beginnings of life. Into this chain of life as far as we know Death has never entered. because only in life has the ancestor the power of casting off the germ-cells by which life is continued. Each individual is in a sense the guardian of the life-chain in which it formsa link. Each link is tested as to its fitness to the conditions external to itself in which it carries on its functions. Those coreatures unadapted to the environment, whatever it may be, are destroyed, as well as those not adaptable. And this environment by which each is tested is the objective Universe. It is not the world as man knows it. It is not the world as the ore ature may imagine it. It is the world as it is. Bature has no pardon for ignorance or illusions. She is no respector of persons. Her laws and her penalties consider only what is, and have no dealings with semblances. By this experience we come to know what reality is, that there is an external world to the demands of which our senses, our reason, our powers of action are all concessions. The safety of each chain of life ispproportioned to the adaptation of lits links to these conditions. This adaptation is in its essence obedience. The obedience of any greature is conditioned on its response in action to sensations or knowledge. perception and intellect alike stand as advisers to its power of

going back in the past to the unknown beginnings of life. this chain of life as far as we know Besth has never entered, bedsess to revog ent rotseems ent and elil at vine sessebed the generalis by which life is continued. Rech individual is in a sense the cuardian of the Life-chain in which it formis link, Each link is tested as to its fitness to the conditions external serujaeron esont . anoijonul est no selviso it doine ni liessi oj unadapted to the environment, whatever it may be, are destroyed, doldw ud inemnoulvne sini bna .eldsiqaba jon eseni as ilem as each is tested is the objective Universe. It is not the world want yam stute ero odd as blyow edd Jon at JI . . Ji sword nem as rol mobraq on sad equial .at it as bivov edt at il .it enin ignorance or illusions. She is no respector of persons. Her laws and her penalties consider only what is, and have no dealings with semblaness. By this experience we come to know what reality is, that there is an external world to the demands of which our senses, our resson, our povers of action are all concessions. The noitatquas and of benefit operagal elif to misdo dose to violes of lits links to these conditions. This adaptation is in its essence obedience. The obedience of any eresture is conditioned on its response in setion to sensations or knowledge. Sense To rewor sti of exestybe as busis exits tealleint bus notifeered choice. The power of choice involves the need to choose right.

Leads to

For wrong choice is punished by death. Death ends the chain of

which the creature is a link and the life of the world is contin-That "the sins of the fathers are visited on the children" is, in the long run, the expression of Infenite Mercy ued by those whose choice has not been fatal. Severity of condition and stress of competition are met in life by the survival of those adequate to meet these conditions. Thus "in creatures sore bestead by the environment" when instinct and impulse fail. reason mises to ensure safety. At last the cizilized man's reason comes to be a chief element in guiding the choice of life. with greater power to know and hence to choose safely, greater complexity of conditions become possible, and the multifarious demands of modern cizilization finds some at least who can meet them fairly well. To such the stores of human wisdom must be open. To others right choice in new conditions is possible only through following the footsteps of others. The multitudes of civilized men, like the multitudes of animals, are saved to life by the instinct of conventionality. The instinct to follow those whose footsteps are secure is one of the most useful of all impulses to action. In the same connection we must recognize authority as a most important source of knowledge to the individual. But its value is proportioned to the ability of the individual to use the tests es wisdom must apply to the credentials

oboles. The power of aboles involves the need to choose right.

which the creature is a link and the life of the world is bontinwarm thought to father one visites on the children" is, in the love run, the expression of the tother warm ued by those whose choice has not been fatal. Severity of conor those adequate to meet these conditions. Thus "in creatures . Ile's ealugmi bas fontion! when the thought and impulse fail. ed Jaum mobels nemud to serois ont does of .lles viriet modi open. To others right choice in new conditions is possible only elil of beves era , elamina to sebujitlum end exil , nem hexilitio by the instinct of senventionality. The instinct to follow impulses to section. In the same connection we must reconize -thol od: To willids od os benelitogorq at selev ail ins . Loun vidual to use the tests we wisdom must apply to the eredentials

of Authority. But instinct, appetite, impulse, conventionality, and respect for authority all point backward. They are the outcome of past axearisms conditions. "New occasions bring new duties", and new facts and laws must be learned if men are to remain adequate to the life their own institutions, their self-realization and their mutual help have brought upon them. To the wise and obedient, the most complex life brings no special strain nor discomfort. It is as easy to do reat things as small, if one knows how. But to the i-norant, weak, and perverse, the growth of civilization becomes an engine of destruction. The freedom of self-realization involves the freedom of self-perdition. Hence appears the often discussed relation of "Progress and Poverty" in social development. Hence it comes that civilization of which the essence is mutual help or altruism, under changing conditions, seems to same become one vast instrument for the killing of fools. In the specialization of life conditions are constantly changing. Every age is an age of transition. and transition brings unrest because it impairs the value of conventionality. With the lowest forms of life there is no safety save in absolute obedience to the laws of the world around them. This obedience becomes automatic and hereditary because the disobedient leave no chain of descent to maintain their disobedience.

of Authority. But instinct, specife, impulse, conventionality wan anird anoissono well" .anoilibnoo waxixaxxx fang to amostuo lization of which the essence is mutual help or sitruism. under ventionality. With the lowest forms of life there is no safety ment bauova hirov onl lo swal and of somethedo simiosda al evas

All instincts, appetites, impulses to action, even many conditions of the nature of illusions point toward such obedience. Whether we regard these phenomena as variations selected because useful, or as inherited habits, their relation is the same. They survive as guarantees of future obedience because they have brought obedience in the past. And so with the most enlightened man, the same necessity for obedience exists, and the instincts, appartites and impulses of the lower animals remain in him, or disappear only as reason is adequate to take their place. And in any case there is no alleviation for the woes of life "save the absolute veragity of action; the resolute facing the world as it is."

The intense practical lity of a all this must be recognized.

The truths of science are approximate, not absolute. They must be stated in terms of human consciousness and they never be dissevered from possible human action. Knowledge which can only accumulate without having woven into conduct, has never been a boon to its possessor. As food must be formed into tissue, so must perception go over into action. In the lower forms, we have the devices chiefly automatic by which sensation transmitted to the Sensorium reappears as motion. In like manner we find in man besides these reflex transfers, and the reflex connections formed by habit, that science becomes changed to Art, and know-

All instincts, appetites, impulses to action, even many conditions of the nature of illusions point toward such obedience. Whether we regard these phenomens as variations selected because useful, or as inherited hebits, their relation is the same. They survive as guarantees of future obedience because they have brought obedience in the past. And so with the most enlightened man, the same necessity for obedience exists, and the instincts, apparates and impulses of the lower animals remain in him, or disappear only as reason is adequate to take their place. And in any case there is no alleviation for the woes of life "save the absonance of the versuity of action; the resolute facing the world as it is."

The intense practice willy of a sit this must be recognized.

The truths of science are approximate, not absolute. They must be attended in terms of human consciousness and they never be dissevered from possible human scilon. Knowledge which can only accumulate without maxing woven into conduct, has never been a boon to its possessor. As food must be formed into tissue, so must perception go over into sciion. In the lower forms, we have the devices chiefly sutomatic by which sensation transmitted to the Sensorium reappears as motion. In like manner we find in man besides these reflex transfers, and the reflex connections in man besides these reflex transfers, and the reflex connections formed by habit, that science becomes a anged to Art, and know-

ledge to power. Power and effectiveness are conditioned on accuracy. Every failure in the same organ, every form of deterioration of the nerves shows itself in reduction of power. Reduced effectiveness shows itself through the processes of natural selection as reduction is safety in life. Thus the degeneration of the nervous system through excesses, through proceedings activi-

ty of through the effect of stimulants shows itself in ungrustyworthy preceptions, in uncontrolled muscles, and in the lack of security in life. Incidentally all these are recorded by fall in social standing. With the reduction of the accuracy of recognition of reality the person ceases to hold his place as a man among men. Similar failure comes with any cause impairing the recognition of the reality of external things. The sober mind is necessary to secure life. In general all civilización are well born. They come of good stock. For the lineage of perversity, insanity, and even stupidity is neven a long one. The perverse, insane, and the stupid live through the tolerance of others. They cannot maintain themselves, and in spite of charity and the sense of conventionality, the mortality caused by the foolkiller is something enormous. It is an essential element in race progress. It grows with increased civilization, be cause of increasing complexity of condition. It is the chief

iedge to power. Fower and effectiveness are conditioned on accuracy. Every failure in the same organ, every form of determineration of the nerves shows itself in reduction of power. Reduction of the nerves shows itself through the processes of natural associton as reduction is safety in life. Thus the degeneration of the nervous system through excesses, through proceedous setty:

-nu ni liesii swoda sinslumiis lo iselle edi dguordi to vi grustyworthy preceptions, in uncontrolled susples, and in the last of security in life. Incidentally sil these are recorded by fall in social standing. With the reduction of the securedy a man among men. Similar fallure comes with any cause impairing . medes soft . . amned Ismeste le willest od lo noilimoner ed are well borm. They core of good stock. For the lineage of perversity, insanity, and even stupidity is neven a lone one. The perverse, insane, and the stupid live inrough the telerance of others, They cannot maintain themselves, and in spite of chartty and the sense of conventionality, the mortality caused by the Inches to Latines as as it is a succession guidients at relitation in rece progress. It grows with increased divilization, be compensating influence for the life saving which has been made possible for scientific research. As Prof. H. H. Powers has said "there is in civilization not a single vice that race progress can spare." "The fool-killer", Dr. Bailey tells us, "the fool-killer, the fool-curer and the fool-preventer are alike servants of the living God."

The recent "recrudescense of superstition" a striking accompaniment of an age of science is in a sense dependent on science. Science has made it possible. The traditions of science are so diffused in the country at large, that fools find it safe to defy Those who take dreams for realities; those whose memory them. impressions and motor dreams are uncontrolled through defective will; those who mistake subjective sensations produced by desease or disorder for objective conditions; all these are sooner or later dropped from existence taking with them the whole line of their possible successors. The condition of mind which is favorable to mysticism, superstition and revery is unfavorable to life and the continuance of such conditions leads to death. On the billboard across the street I see the advertisement of a lecture on the "Ethical value of living in two worlds at once." thus lives in two worlds is certain soon to prove inadequate for either.

compensating influence for the life daying which has been made possible for satentific research. As Prof. H. H. Powers has said "there is in civilization not a single vice that ruce progress can spare." "The feel-killer", Dr. Bailey tells us, "the fool-killer, the fool-willer, and the fool-preventer are alike servents of the living God."

The recent "recrudescense of superstition" a striking accompaniment of an age of science is in a sense dependent on science. es era conclos to snotthart enT .eldisseq it obem end conclos diffused in the country at large, that fools find it safe to defy theme, . Those who take dreams for realities; those whose memory impressions and motor dreams are uncontrolled through defective will; those who mistake subjective sensations produced by desease possible successors. The condition of mind which is favorable the continuance of such conditions leads to death. no equipos a to inemestate adverta edi esonos brand the "Ethical value of living in two worlds at ones." thus lives in two worlds is certain soon to prove inadequate for

If all men sought healing from the blessed hankerchief of the lunatic, or from contact with old bones or old clothes; if all physicians used "revealed remedies," or the remedies Mature finds for each disease; if all business were conducted by faith; if all supposed "natural rights" of man were reorganized in legislation; if Wall the porotean phases of that which Zangwill has cleverly called the "Higher Foolishness" were worked out in action the insecurity of these beliefs would speedily appear. Not only civilization but civilized man himself would vanish from the earth. The safe shelter of the cove and hollow tree would be the cradle of the "new man" and the "new woman". The long and bloody road of progress through fool-killing would for centuries be traversed The fool lives in cociety only by suffrance of the sane; again. the weak by the altruism of the strong. That is strong which endures. Might does not make right, but that which is right will justify itself by becoming might. What we call social virtues are the elements of race stability.

In the ordinary affairs of life it may be as safe to believe in Mahatmas and magic, in cobolds and norms, as to have the vague notions of microbes and molecules, atoms and protoplasm which form part of the mental equipment of the average modern man. But the difference appears when the knowledge is to be turned into action.

-anul edi to teldoreward besseld add mort anilsed idagos nem i's it -levely lie it teastole bio we sened bio mil dealnos men' we att re? ghall erujeW selbemen sal no ", selbemen belseven" besu sasio -que ile il idital yd bejoubnoo enew seenland ile il jesaosib dose The incitateigel of besines were reorganized in legislation; if Winevelo and iliwanas doin's jad to senado nasjoned and ila Vi oalled the "Higher Foolishness" were worked out in setion the in-1 . . dires end mort dainey binow Tiesmid nam besilivio dud noitasti The sale shelter of the cove and hollow erro would be the confi of the "new man" and the "new woman". . "The long and bloody road of progress through fool-killing would for centuries be traversed sensin. The feel lives in cociety only by suffrance of the sens the weak by the eltruism of the strong . That is strong which i endures. . Might does not make right, but that which is right will are the elements of race stability.

In the market and magic, in cobolds and norms, as to have the value not tend of microbes and molecules, atoms and protoplasm which form notions of the montal equipment of the average modern men. But the difference uppears when the knowledge is to be turned into action.

Microbes and molecules become more real the more nearly one comes
to deal with them. If one learns to use them they become as
real as rocks or dollars and as capable of influencing human wix
fairs welfare. But those conceptions which are figments of ignorance and insanity become less real as we try to deal with them,
and the action based on them is not safe nor effective.

30 clearly is knowledge linked to action that in general, amonguanimals and men, whom action is not possible, sensation is absent or nor trustworthy. Objects too small to be touched are invisible to the eye. Objects beyond our reach, as the stars or the clouds are not truthfully pictured. Accuracy of perception grows less as distance increases. The unfamiliar lends itself readily to illusions. The familiar is recognized chiefly by breaks in continuity. The real forces of nature are hidden by their grandeur, by their immortality. Men see the form of the surface, but not the mighty tides that move beneath it. Again the senses are less acute, than the mechanism of sense organs would make possible. This is shown through occasional cases of Hyperaesthesia or ultra sensitiveness. This occurs in abnormal individuals or in unusual conditions. It occurs normally in creatures whose lives in some sense depend on it. Thus some of the most remarkable exhibitions of "mind reading" may be paralleded by

Elerobes and molecules become more real the more nearly one comes to deal with them. If one learns to use them they become as real as rocks or dollars and as capeble of influencing human with fixed and the walters. But these conceptions which are figurents of times read and the action based on them is not safe nor effective.

amongeanismis and sen, whom action is not possible, sensation is absent or nor trustworthy. Objects too small to be touched are -qeared to veriment . Desured vilulity of truthfully pictured. . -il abnet vallimelny off .sessoroni consiste as seel awarn nois by breaks in continuity. The real forces of nature are hidden by their grandeur, by their immortality. Men see the form of the make possible. This is shown through occssional cases of Hyperviduels or in unusual conditions. It occurs normally in orestures whose lives in some sense depond on it. Thus mome of the yd ba.ellerag ed yam "gnibeer bnim" lo anoisididxe eldawmen seom

by retriever dogs whose reason for existence is found in the hyperaesthesia of the sense of smell. Hyperaestresia of more than one of the senses would be to most animals a source of confusion and danger rather than of safety. I Men's high development of the brain in large degree takes the place of acuteness of special senses. It is part of the function of the will to keep down the senses. And in his perception of external relations he is aided by the devices of science, which mau be taken up or laid down at will. By means of instruments of percision any of the senses may be aided to an enormous degree, and at the same time the personal equation or individual source of error is largely eliminated. The use of instruments of precision is the special characteristic of the advance of Science. No instrument of percision can give us the ultimate essence of any part of the universe. No scientific experiment can do away with the measure of human experience as the basis of intelligibility. At the same time we can throw large illumination into "the dimly lighted room" in which according to Balfour, the phenomena of conciousness take place. By the simple process of photography, for example, we may reproduce the objects of our environment. That such pictures do express phases of reality admits of no doubt. For in the photographic camera, all personal equation is eliminated.

hyperaesthesis of the sense of smell. Hyperaesinesis of more (tran one of the senses would be to most animals a secres of confuerion and danger rather than of safety. Then's high development wage to spending to some of the place of conteness of special senses. It is part of the function of the will to keep down the senses. And in his perception of external relations no is sided by the devices of science, which was be taken up or the senses may be alded to an enormous degree, and at the same time the personal equation or individual source of error is large--ags on al notationed to simemurgant to one ent .besidentle vi of all charge orisits of the advance of Science. No instrument of -inu onl lo fraq une lo conesse essentilu onl ou evig nac noislowed of insmen experience as the basis of intelligibility. At the room? in which according to Balfour, the phenomena of concloueness take place. By the simple process of photography, for example, we may reproduce the objects of our environment. That such picfures do express phases of reality admits of no doubt. For in the photographic camera, all personal equation is eliminated. As to form of outline and reflection of light the "sun paints true", and the paintings thus made by means of the action of non-living matter produce on our senses impressions coinciding with those of the outside world itself.

How do we know that this is true? Because Belief in it adds to the Safety of life. We can trust our lives to it. If it were an illusion it would kill, because action based on illusion leads to death.

One can trust his life for example, to the message sent on a telegraph wire. All who travel by rail do this daily. One can trust his life to the reading of a themometer. The chemists' tests will select for us foods among poisons. We may trust these tests absolutely. We may safely and sometimes wisely take poisons into our bodies if we know what we are doing. By the advice of a physician, trusting in the weigher's instruments of precision, poisons may do no harm. One grain of strychnine may be an aid to vital processes; a dozen may mean instant cessation of these processes. The balance advises us as to all this. All these instruments of precision belong to Science. They are examples, taken from thousands of the methods of organized common sense. By means of common sense, organized and unorganized, all creatures that can move are enabled to move safely. The security

As to form of outline and reflection of light the "sen beints "."

true", and the paintings thus made by means of the setion of nonliving uniter produce on our senses impressions coinciding with
those of the outside world itself.

sone if he ledge esupose: Years of sind tend on woll of the salet on little. We can true to the salet on little modelline enter a little bloom it modelline enter a leader to death.

one can trust his life for example, to the message sent on a telegraph wire. All who travel by rail do this daily. One can trust his life to the reading of a themometer. The chemists' tests will select for ne foods among poisons. We may trust these tests absolutely. We may safely and sometimes wisely take poisons into our bodies if we know what we are doing. By the advice of a physician, trusting in the weigher's instruments of prediction, poisons may do no harm. One grain of strycining may be an aid to vital processes; a dozen may mean instant cessation of these processes. The balance advises us as to all this. All these instruments of prediction belong to Science. They are extended to regarded common sense. By means of common sense, organized and unorganized, all conserves. By means of common sense, organized and unorganized, all conserves that can move are enabled to move safely. The security

wer to the "philosophic doubt" of Berkeley and Balfour as to the existence of external nature. For if all phenomena were within the mind, no one of them could be more dangerous than another. A dream of murder is no more dangerous than a dream of an afternoon pink tea, so long as its action is confined to the limits of the dream. But the relation of life to environment is inseparable and inexorable. Cause and effect are perfectly linked. This is a world of absolute verity, and its demands absolute obedience. Life without concessions of conditions is the Philosopher's dream.

What we know as pain is the necessary signal of warning of bad results, of bad relations. Without pain, life conditioned by environment, would be impossible. We need such stimulus to veracity. Those dangers which are painless are the hardest to avoid; the diseases which are painless are the most difficult to cure. Misery in general is only nature's protest against personal degradation. The way out of misery is the way into life.

The ideal in the mind tends always to go over into action. The noble ideal discloses itself in a noble life. It is part of the wisdom of each generation, its science as well as its religion, to form the ideals of the rest. History is written in these ideals

of numer life in its relations to environment is a sufficient enser ent of the "philosophia doubt" of Berkeley and Balfour es to the existence of external nature. For if all phenomena were within dream of murder is no more dangerous than a dream of an afternoon ons to estmit end of bonfines at notice est as and on , set wind and inexerable. Capse and effect are perfectly linked. This . specified of specific verity, and its demands to birds a si Life without concessions of conditions is the Philosopher's dresm. bed results, of bed relations. Without pain, life conditioned avoid; the diseases which are painies are the most difficult to -careq Janiega Jaetorq a'erutan vino el lareneg ni viesti .evus .eltl oint yaw ent al wasery of misery is the way into life. The ideal in the mind tends always to go over into action. The wiscom of each generation, its science as well as its religion, to form the ideals of the rest. History is written in these ideals

A dream is fleeting. An ideal has the will behind it. The persistence of a lofty ideal is the central axis of the life worth living.

An old parable of the conduct of life shows men in a light skiff in a tortuous channel beset with rocks, borne by a falling current to an unknown sea. He is kept awake by the needs of his situation. As he boat bumps against the rocks he must bestir himself. If this contact were not painful he would not heed it. If it were not hurtful he would not need to heed it. Had he no power to act, he could not heed it if he would. But with senention, will, freedom to act, narrow though the mimits of freedom be, his safety rests in some degree in his own hands. That he has secured safety thus far is shown by his continued existence. he may choose his course for himself, not an easy thing to do, unless be scans most carefully the nature of the rocks and waves, and his control of the boat itself. He may follow the course of others with some degree of the safety they have attained. He may follow his own impulses, in man's case inherited from those who those who found them safe guides to action. But in new conditions, neither conventionality nor impulse nor desire will suffice. He must know what is about him in order that he may know what he is doing. He must know what he is doing in order to do anything

before it is come to the stage of life. An ideal is not a dream.

A dream is fleeting. An ideal has the will behind it. The
persistence of a lofty ideal is the central axis of the life worth

himself. If this centent were not painful he would not heed it. on ed ball .il beed of been for bloom on Lollium for over it it -nes dile jud .bluow and is if heed jon bluos ed . jos of wowd -nu .ob es anids years no los lieses for himself, not an easy thing to do, unhis control of the boat itself. He may follow the course of -lones wen at jud .notjes of seling else ment bauol one osert

effectively. Ignorant action is more dangerous than no action at all. The "scaled orders" under which live the lower animals and our "brother organisms the plants" are in a measure inadequate for man. With the power of movement and the "knowledge of good and evil", he has no choice but to accept the conditions. must shape his own life. He must make his ideals into actuality. And thus it comes that there is "no alleviation for the sufferings of man except through absolute veracity of thought and action, and the resolute facing of the world as it is. " For wisdom is only knowing what should be done next, and virtue is doing it. thus at comes that it is well for man not "to pretend to know or to believe what he really does not know or believe. * For there is no safety in life either for ourselves or others, if we guide our conduct by any influence less wise or potent than that developed from the coordination of human wisdom. We may play at Philosophy, if we have pleasure in doing so. We may find intellectual strength through exercise of the mind, even on its own products. But we must guide our lives by Science. The appetites, impulses, passions, illusions, if you choose, which have proven safe in the past development of life, Science would not destroy. But they must be subordinate to the will and intellect. And this subordination of the lower to the higher motives in life is the cut

at all. . The "sealed orders" under which live the lower animals and evil", he has no choice but to accept the conditions. He . will own life. He must make his ideals into schoolity. agnirellus ent rol notisivella on" et erent tant semos il sent bnA knowing what should be done next, and wirtue is doing it. at eachly now ".aveiled no word jon seed vilar on jadw eyelled from the coordination of human wisdom. "e may play at Philoso-But we must guide our lives bynScience. Inc appetites, impulin the past development of life, Scionce would not destroy. But sld: bnA .joellesni bms iliw ed; os ejanibrodus ed jame yed; tue only at elif al sevijem recipic only of revol edi le noticalbrodus strivings for better relations of man to man, and of man to nature, have been worthy of the name of religion.

The will is the soul of man in action. The intellect is its guide. If the life of man is hemmed in by the Fates, the human will is one of the fates and must take its place by the side of the rest of them. The man who can will is a factor in the universe.

As knowledge is in its essence only a guide to action, and as knowledge being human can be approximate only; not reality, but a movement toward reality, we are brought to the oft quoted words of Lessing:

of man. Possession makes him selfish, lazy, proud. Not through possession but through long striving comes the ever-growing strengt strength. If God should hold it in his right hand all fruth and in his left hand only the ceaseless struggle to reach after Truth, and He should say to per choose, I would fall in humbleness before his left hand and say:

'Father, give; the perfect Truth is but for Thee alone.'"

strivings for better relations of man to man, and of man to na-

The will is the soul of men in action. The intellect is its mulde. If the life of men is hermed in by the Mates, the number will is one of the lates and must take its place by the side of the rest of them. The man who can will is a factor in the number of the rest of them.

As knowledge to in its essence only a guide to setion, and as knowledge being numen den be amproximate only; not resiity, but a moviment toward resiity, we are brought to the oft quoted words of beastart.

of man. Possession makes him selfish, lezy, proud. Wet through of man. Possession makes him selfish, lezy, proud. Wet through possession but through long striving comes the sym-erosting electrony strength. If God should hold it in his right hand all Truth and in his left hand only the senseless struckle to reach after fruth, and the should say to got choose, I would fall in humbleness hefore his fart hand and say:

"Father, give; the parfect Truth is but for Thee alone."