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The Philosophy of 'As if'

A System
of the Theoretical, Practical and Religious Fictions
of Mankind

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GENERAL INTRODUCTION

CHAPTER I

Thought, considered from the point of view of a purposive, organic Function

SCIENTIFIC thought is a function of the psyche. By the term "psyche" we do not understand a substance, but the organic whole of all so-called "mental" actions and reactions; these never come under external observation, but have to be partly inferred from physical signs, partly observed by the so-called inner sense. Psychological actions and reactions are, like every event known to us, necessary occurrences; that is to say, they result with compulsory regularity from their conditions and causes. If we would compare psychological processes with some group of external phenomena, the physical and in a narrower sense mechanical processes are less suitable than the functions of the organism. This statement is confirmed by the fact that so-called empirical utility is found in the psychological functions as well as in the organic functions of the bodily sphere. This utility is manifested here as there in a ready adaptation to circumstances and environment; in the maintenance of a striving and successful reaction of the physical or psychological organism to external impulses and influences; and in the adoption and acceptance or the repulsion of new elements. In the psyche there takes place not merely a mechanical play of ideas, but the movement of ideas fulfils to a great extent the demands of utility by its continual modification. All psychological processes are *useful* in the sense mentioned; above all the so-called theoretical processes of apperception. Scientific thought consists in such apperception-processes and is therefore to be considered from the point of view of an organic function.

Thus we would compare the logical or thought-processes with the organic creative processes. The appropriateness that we observe in growth, in propagation and regeneration, in

adaptation to environment, in healing, and so on, in the sphere of the organic repeats itself in the psychical processes. The psychical organism also reacts fittingly to stimuli. It is not merely a receptacle into which foreign matter is simply poured, but may be compared to a machine with a chemical retort, which uses foreign matter most fittingly for its own maintenance and the maintenance of its motion, and appropriates it through assimilation, not through pure juxtaposition. And similarly consciousness is not to be compared to a mere passive mirror, which reflects rays according to purely physical laws, but "consciousness receives no external stimulus without moulding it according to its own nature." The psyche then is *an organic formative force*, which independently changes what has been appropriated, and can adapt foreign elements to its own requirements as easily as it adapts itself to what is new. The mind is not merely appropriative, it is also assimilative and constructive. In the course of its growth, it *creates its organs* of its own accord in virtue of its adaptable constitution, but only when stimulated from without, and *adapts them to external circumstances*. Such organs, created by the psyche for itself in response to external stimuli, are, for example, forms of perception and thought, and certain concepts and other logical constructs. Logical thought, with which we are especially concerned here, is an active appropriation of the outer world, a useful organic elaboration of the material of sensation. Logical thought is therefore an organic function of the psyche.

Just as the physical organism breaks up the matter which it receives, mixes it with its own juices and so thus makes it suitable for assimilation, so the psyche envelops the thing perceived with categories which it has developed out of itself. As soon as an external stimulus reaches the mind, which rapidly responds to it as though provided with delicate feelers, inner processes start, a psychical activity begins, the outcome of which is the appropriation of the thing perceived for some purpose.

To Steinthal is due the merit of having established and worked out this view of the organic function of the logical movements involved in knowing; we go a step further, in attempting to consider the organic thought-functions from the point of view of *purposive activity*. Sigwart and Lotze begin their Logic with this teleological point of view. Just as it is the purpose of the eye to transform the various ether-waves

into an ordered system of fixed sensations, and, through refraction, reflection and so on of rays, to make reduced "images" of the objective world; and just as that organ is suitably arranged for the fulfilment of this purpose and is able to carry out independent movements of accommodation and modifications according to circumstances—so the logical function is an activity which suitably fulfils its purpose and *can adapt and accommodate itself to circumstances and objects for the fulfilment of this purpose.* It is the purpose of the organic function of thought to change and elaborate the perceptual material into those ideas, associations of ideas, and conceptual constructs which, while consistent and coherent among themselves are, as the phrase goes and as we can also say provisionally, "clothed in objectivity."

Since, however, we do not know objective reality absolutely but only infer it (and this is also an ordinary scientific view) we must revise our statement and say that thought has fulfilled its purpose when it has elaborated the given sensation-complexes into valid concepts, general judgments, and cogent conclusions, and has produced such a world that objective happenings can be calculated and our behaviour successfully carried out in relation to phenomena. We lay most stress on the *practical* corroboration, on the experimental test of the utility of the logical structures that are the product of the organic function of thought. It is not the correspondence with an assumed "objective reality" that can never be directly accessible to us, it is not the theoretical representation of an outer world in the mirror of consciousness nor the theoretical comparison of logical products with objective things which, in our view, guarantees that thought has fulfilled its purpose; it is rather the practical test as to whether it is possible with the help of those logical products to *calculate events that occur without our intervention* and to realize our impulses appropriately in accordance with the direction of the logical structures.

It is interesting to observe how Lotze in his *Logic* withdraws his first definition, p. 4 [E.T. p. 2], of the truth of thought, that is to say its final purpose: "Truth consists in the agreement of ideas and their associations with the objects presented and their own relations," and modifies it to: "Connexions of ideas are true, if they are in accordance with those relations in the matter of the ideas, which are the same for all consciousness, and not

the mere occurrence and juxtaposition of impressions, which are different for each individual consciousness." But when Lotze claims as the final function of thought a general world-image that shall be the same for all (cf. Laas, *Anal. d. Erf.*, pp. 95, 127: the objective world in "consciousness in general") he overlooks that such a general agreement would still offer no guarantee of the "truth" of combinations of ideas. Only the practical test is the final guarantee; but even here we can only conclude that combinations of ideas fulfil their purpose, and have been rightly formed. From the standpoint of modern epistemology we can therefore no longer talk about "truth" at all, in the usual sense of the term.

Helmholtz too, in several places in his works, as in the Optics, and particularly in his lecture entitled "Logical Principles of the Empirical Sciences" assigns the principal value to the practical proof demanded above.

We will not at this point settle the question, deeply rooted in metaphysics and in our whole practical outlook, whether the logical function, or, to put it otherwise, whether the theoretical activity is or should be an end in itself for man, or whether all theoretical functions have arisen solely from our impulses, and have therefore ultimately to serve only practical ends.

Schopenhauer in particular has taken this latter view in modern times. As the will, according to him, is the only metaphysical principle, and a will that is blind and illogical, so the brain with all its ideas is in his opinion essentially nothing but a tool, whose function it is to serve the will and preserve the life of the individual. The intellect occupies a subservient position in regard to the will. That Herbart adopted a very similar position is less well-known, but it is a natural conclusion from the relation of the psychical monads to the organism, which can well exist without them. He therefore calls the mind a "parasite of the body," exactly as Schopenhauer does; it serves chiefly to facilitate the preservation of the organism. They both regard the theoretical activity, consciousness, therefore, as a tool of the organism and a means to self-preservation. It is not, as such, essential to our subsequent enquiry how the relation of thought, of the theoretical and conscious thought-processes to the life of the instinct and will is understood; but, as we proceed, the treatment of thought as an instrument may prove useful in securing the right orientation. If thought only exists on account of the will, or as we may say with Fichte, on account of action, then knowledge is

not the ultimate purpose of thought ; it cannot, therefore, be an end in itself, but only a by-product, something emerging incidentally, as it were, from the workshop of thought. The practical value of thought would then rank first, and "knowledge" would only be a secondary and incidental motive, as Schopenhauer also assumes. This point may be of interest in the course of our enquiry, when we come to treat of conceptual structures whose intellectual value is as questionable as their practical value is obvious. Steinthal pertinently develops the same view : "We need knowledge of the world of things, and of ourselves, and of the connection of things with each other and with ourselves, in order to be able to live." He mentions, quite in accordance with the modern attitude, three chief tasks for which knowledge is required : the search for food, cultivation, and protection from the elements. "Knowledge is therefore a necessary factor in Nature's economy. It combines with physical and chemical operations to render the existence of the human race and the animal kingdom possible ; it facilitates the material conditions which are essential to life." Thought, then, must be regarded as a mechanism, as a machine, as an instrument in the service of life ; and this way of treating it is more important for logic than appears at first sight.

For our more limited purposes we may be content with the definition given above, according to which the test of the correctness of a logical result lies in *practice*, and the purpose of thought must be sought not in the reflection of a so-called objective world, but in rendering possible the calculation of events and of operations upon them. For us the purpose of the logical function of thought is to keep us constantly in a position to deal with things so that, with given conditions, relations, stipulations, and circumstances, we may receive an exactly ascertainable sense-impression (for every determination of objective data ultimately rests on that, and can be scientifically established in no other way) ; and so that, by such and such an impulse under certain conditions, we may produce an exactly ascertainable effect, which in its turn cannot be observed except by means of certain sensations. Only through the reduction of the concepts "thought, action, observation," etc., to elements ultimately physiological, to sensations, do we obtain a correct standard for the valuation of logical work, which converts elements of sensation into logical structures. These latter again, in the last resort, exist to be converted into sensations, or to

serve to control impressions and adjust will-impulses, that is to say, nerve-impulses.

All purposeful activity manifests itself in seeking out, collecting, or producing the necessary and serviceable means for the attainment of its object. The organic activity of thought also manifests its purposeful nature in exerting itself to attain its aims by all the means at its command.

If sensations are the starting-point of all logical activity and at the same time the terminus to which they must run, if only to render control possible (and as we remarked above, it must remain undecided whether we must regard the logical functions between these two points as having some inherent purpose), then the purpose of thought may be defined as the elaboration and adjustment of the material of sensation for the attainment of a richer and fuller sensational life of experience.

In order to attain the purpose of its activity as completely and quickly as possible, namely, to deal with independent events and to render them possible for or dependent on our will, thought or the logical function employs the most diverse means.

Thought is bent on continually perfecting itself and thus becomes a more and more serviceable tool. For this purpose it expands its province by inventing instruments, like other natural activities. The arm and the hand do the same, and most ordinary instruments are to be regarded as elongations and extensions of these organs. The natural function of thought, which we spoke of above as a tool, also expands its instrumentality by the invention of tools, means of thought, instruments of thought, one of which is to form the subject of our enquiry.

Thought undertakes ingenious operations, invents brilliant expedients, is able to introduce highly complicated processes. The material of sensation is re-modelled, re-coined, compressed, it is purged of dross and mixed with alloys from the fund of the psyche itself, in order to render possible a more and more certain, rapid, and refined solution of the problem of the logical function. All these very different and highly complicated processes and operations are governed by very few and simple laws, just as the complicated work of the physical organism and its apparently very different organs is reducible to remarkably simple, regular elementary forms and processes. It is the business of logical theory to reduce the complicated logical processes to such simple elementary processes, to a few, definite

mechanical events. The rich life of the spirit, as it expands with its countless variations in the vast field of science, rests in its most complicated forms and processes on simple, primitive laws. It arises only as a result of the extraordinarily ingenious modification and specialization of these few elementary types and laws, which partly under the pressure of external causes and circumstances, and partly in obedience to immanent processes of development, expand into that rich and infinite system of knowledge of which man is so proud. Just as *Meleagrina margaritifera*, when a grain of sand gets beneath its shining surface, covers it over with a self-produced mass of mother-of-pearl, in order to change the insignificant grain into a brilliant pearl, so, only still more delicately, the psyche, when stimulated, transforms the material of sensation which it absorbs into shining pearls of thought, into structures. By means of these structures the logician follows the adaptable, organic, purposeful, logical function into its most secret processes, its most delicate forms of specialization. In both cases it is the ingenuity of the *purposive activity* which arouses our wonder and attention. We deliberately emphasize the utility of the organic function of thought, because we shall subsequently be dealing with logical structures in which this purposiveness is strikingly manifested.

So far in our exposition we have not yet touched on an aspect which is of great importance for the right understanding of the logical function: the fact, namely, that the organic function of thought is carried on for the most part *unconsciously*. Should the product finally enter consciousness also, or should consciousness momentarily accompany the processes of logical thought, this light only penetrates to the shallows, and the actual fundamental processes are carried on in the darkness of the unconscious. The specifically purposeful operations are chiefly, and in any case at the beginning, wholly instinctive and unconscious, even if they later press forward into the luminous circle of consciousness, which in course of time is able both as regards the individual and the general history of culture to bring under its control ever wider areas of psychological activity. Logic is specially concerned to throw light on the dark and unconsciously working activity of thought, and to study the ingenious methods and devices which that unconscious activity employs in order to attain its object.

However we may conceive the relation of thought and reality, it may be asserted from the empirical point of view,

that the ways of thought are different from those of reality, the subjective processes of thought concerned with any given external event or process have very rarely a demonstrable similarity to it. We make this observation in order to emphasize that the logical functions are subjective but useful efforts which thought makes to attain the objects we have already described. Whatever objective reality may be, one thing can be stated with certainty—it does *not* consist of logical functions, as Hegel once thought.

The Hegelian system offers historically the most glaring and typical example of this general error of philosophy: the confusion of thought-processes with events, the conversion of subjective thought-events into objective world-events. (That the Hegelian dialectic is, however, based on a correct insight into the nature of logical development, we shall have occasion to remark later.)

Actually the greatest and most important human errors originate through thought-processes being taken for copies of reality itself;¹ but the ultimate practical agreement of our ideas and judgments with so-called "things" still does not justify the conclusion that the processes by which the logical result has been obtained are the same as objective events. On the contrary *their utility is manifested in the very fact that the logical functions, working according to their own laws, do constantly coincide in the end with reality.*

CHAPTER II

Thought as an Art, Logic as Technology (a collection of technical rules of art)

WE have spoken of thought as an organic function. Every natural faculty, and this applies to all organic functions, can, through practice, development and hereditary transmission, be raised to an art. Only in this sense can thought be an art. Logic is sometimes called a technology.

¹ Cf. Kant, *Proi.*, § 40: "All illusion consists in holding the subjective ground of judgment to be objective." Reason falls into error "when it mistakes its destination, and refers transcendently to the object what only concerns its own subject and its guidance in all immanent use." Cf. *Proi.*, § 55.

Whoever calls logic technology must consider thought as an art.

It is inaccurate to consider logic itself as an art. Thought is an art, but logic is a science, and a technology in particular.

It need hardly be stated that in this use of the word and concept "art" we are taking the meaning in which the æsthetic side is not emphasized. We are not concerned with an artistic activity, but with an ingenious dexterity. So long as the organic activity of thought remains in the sphere of the unconscious (the "hypo-psychical" according to Laas) we call it preferably *purposeful*, just as we attribute a similar purpose without hesitation to all organic functions, without thereby raising the metaphysical problem of teleology; but when the organic activity leaves the sphere of the unconscious for more wakeful activities, when consciousness seizes the rudder, we choose to call this organic activity *technical*. The more the natural faculty of thought, the instinctive activity of the logical functions is improved and refined—the more the logical operations are specialized, and the finer logical functions fall to the lot of special individuals in consequence of the division of labour in the economy of nature—the more do these terms find justification in this fact. If thought is a wide-spread activity, acquired by the individual in the course of his development, as so many other arts which are *necessary* to human existence, then the more difficult part of the logical problem is carried out by single individuals, specially gifted and developed for that purpose; but as soon as a common natural faculty becomes specialized in such a way that particular individuals practise it with particular dexterity, we call it an art. Certain technical rules are developed: the totality of these rules is called the technology; and such is logic, whose chief task is to present and establish the technical rules of thought.

CHAPTER III

The Difference between the Artifices and the Rules
of Thought

METHODOLOGY, as hitherto employed, has endeavoured to collect the technical rules of thought in their completeness and to employ them systematically. It has succeeded in registering, analysing and systematically establishing those technical operations and manipulations which are the most frequent, regular, and important. It is the operations whose skilful application, intelligent realization, and rational improvement are essential to the progress of modern science which have been raised from practice into theory and reduced to the simple and primitive forms of the logical function. The admirable methods of the empirical sciences, methods adapted to their object with an astonishing flexibility, and able to utilize and conform to all circumstances, as in the case of organic beings—these methods found a worthy and completely suitable expression in modern methodology, which has its most brilliant representatives in England, France, and Germany.

Meanwhile, as it seems to me, there are methods employed in scientific practice which have up till now not been duly considered and recognized in theory.

I refer to the methods employed less in natural science than in mathematics and the ethico-political sciences, that is to say, in the most exact science and in fields where exactitude is definitely excluded. It is quite natural that since the methods of the natural sciences had been given a great deal of attention, the methods employed in other branches of science and neglected in natural science should demand examination. In modern logic natural science is given undue prominence at the expense of the sciences mentioned, and to the disadvantage of logic. Mill pays scarcely any attention to the special methods of mathematics, and the methods of the moral sciences are too briefly treated. But the remarkable utility of the logical function is displayed in these two fields to far greater advantage than in the simpler methods of the empirical natural sciences, if only because in those fields the logical function encounters disproportionately greater difficulties and phenomena of a much more complex character than

those of natural science. Just at the points where the empirical method of natural science converges on the methods of exact mechanics and abstract physics, and where on the other hand they approach the complicated phenomena of social life, the insufficiency of purely inductive methods is clearly manifest. It is here that methods begin which present a higher synthesis of deduction and induction, where, that is to say, both these methods are united in the endeavour to solve difficulties which can only be overcome indirectly.

The methods to which we refer may be described as irregular in contrast to the regular methods of ordinary induction. In other spheres also, however, the regular are systematically employed before the irregular, and the latter are left on one side. But where the methods in question have so far been met with, they have either been used too little and too superficially, or in the wrong place and the wrong systematic connection; or they have been confused with other similar forms, as is customary in every science; or, finally, they have been treated with timidity, as everything irregular is treated at first. In logic too a veil of secrecy was woven about such forms.

We make a distinction between *rules* and *artifices* of thought. In other functions also this distinction is of value; the *rules* are the totality of all those technical operations in virtue of which an activity is able to attain its object directly, even when more or less complicated. In logic too we call such operations, and in particular those of induction, "rules of thinking". The artifices, on the other hand, are those operations, of an almost mysterious character, which run counter to ordinary procedure in a more or less paradoxical way. They are methods which give an onlooker the impression of magic if he be not himself initiated or equally skilled in the mechanism, and are able indirectly to overcome the difficulties which the material in question opposes to the activity. Thought also has such artifices; they are strikingly purposive expressions of the organic function of thought. And as in certain arts and handicrafts such artifices are kept secret, so we notice that this is also the case in logic. We will give only one remarkable instance by way of illustration. When Leibnitz by an ingenious artifice of this sort (which we shall later take as our typical example and as one of the chief

subjects of our analysis) discovered an amazingly simple and skilful solution of problems which up till then had passed for insoluble, he anxiously tried for a long time to keep this artifice secret; and those to whom he communicated it astonished mathematicians not yet acquainted with it by the solution of different problems. Newton acted similarly; and, ~~as we are told, did the school of Pythagoras.~~

CHAPTER IV

The Transition to Fictions

WE are therefore dealing with a peculiar kind of logical product, a special manifestation of the logical function. We have already seen that this peculiar activity is expressed in what we call artifices, that its products are artificial concepts. We would here, anticipating the outcome, substitute other terms for these expressions: our subject is the fictive activity of the logical function; the products of this activity—*fictions*.

The fictive activity of the mind is an expression of the fundamental psychical forces; *fictions* are *mental structures*. The psyche weaves this aid to thought out of itself; for the mind is inventive; under the compulsion of necessity, stimulated by the outer world, it discovers the store of contrivances that lie hidden within itself. The organism finds itself in a world full of contradictory sensations, it is exposed to the assaults of a hostile external world, and in order to preserve itself, it is forced to seek every possible means of assistance, external as well as internal. In necessity and pain mental evolution is begun, in contradiction and opposition consciousness awakes, and man owes his mental development more to his enemies than to his friends.

Meanwhile, in the interests of greater clearness and intelligibility we may premise the following remark:

By fictive activity in logical thought is to be understood the production and use of logical methods, which, with the help of accessory concepts—where the improbability of any corresponding objective is fairly obvious—seek to attain the objects of thought. Instead of remaining content with the

material given, the logical function introduces these hybrid and ambiguous thought-structures, in order with their help to attain its purpose indirectly, if the material which it encounters resists a direct procedure. With an instinctive, almost cunning ingenuity, the logical function succeeds in overcoming these difficulties with the aid of its accessory structures. The special methods, the by-paths, of which thought makes use when it can no longer advance directly along the main road, are of many different kinds, and their explanation is our problem. They often lead through thorny undergrowth, but logical thought is not deterred thereby, even though it may lose something of its clearness and purity. It is relevant also to remark here that the logical function, in its purposeful instinctive ingenuity, can carry this fictive activity from the most innocent and unpretentious beginnings on through ever finer and subtler developments right up to the most difficult and complicated methods.

CHAPTER VI

Personificatory Fictions

ANOTHER type of analogical fiction deserving of special treatment is the *personificatory fiction*. The analogy under which phenomena are apprehended is, in this case, the group of ideas connected with a person. The preceding type of fiction was an application of an analogical fiction to a special field; that which we are about to examine represents a special form of apperception.

The principle common to both is the hypostatization of phenomena in some way or another, whatever the extent to which the picture of the personality is involved. This is also the true determining factor in the category "thing." Here, too, belong a whole series of well-known concepts, such as *soul*, *energy*, *psychic capacity*. While formerly these ideational constructs were taken to be the expression of real things, to-day they are regarded as mere abbreviations, as the comprehensive expression for a series of interrelated phenomena and processes. Moreover, all the more specific forces are to be included here, such as *gravitation*, which Newton himself only looked upon as a fiction. The phenomena are, of course, real, but the attribution to them of *gravitational force* is simply a summary expression for the regularity of the phenomena.

We may compare particularly Heinr. Boehmer for the treatment of force as a fiction, in his excellent but neglected work, *Entwicklung der naturwissenschaftlichen Weltanschauung*, Gotha, 1872, pp. 163 ff. and 166. Boehmer quotes the following from Du Bois-Reymond: "Force is simply a disguised outlet for the irresistible tendency to personification; a rhetorical device, as it were, of our brain which seizes upon a figurative expression because the idea is not clear enough to be directly formulated."

It is the same with the *vital force* and a large number of other forces. The former, in particular, was once universally regarded as a relatively secure hypothesis: to-day it is almost as universally regarded as a fiction (certain theologians and theological scientists excepted). Liebig, in his *Reden und Abhandlungen*, declared that unknown causes are merely products of the imagination: for example, the *spiritus rector*,

phlogiston, sound stuff, and the catalytic energy of isomeres. The vital force is for him an invention of the mind, a spectre, etc. On the other hand, used as an auxiliary word it is still extensively employed as a concise summary, and as a nominal fiction (auxiliary word) it can hardly be dispensed with. Apart from this, however, the vital force has no use; and for any further purpose it is a bad fiction.

It is true that this fiction has here deteriorated into a purely nominal one, i.e. the idea serves no practical purpose but that of bringing a number of entities under one head and simplifying our methods of expression. Nothing is stated by such words except what the individual phenomena themselves could state.

To suppose that by means of such words or ideas anything has really been understood—a naive attitude that has not so very long been discarded—is to forget that they are all tautologies.

The same is true if it is believed that the inevitable sequence has been understood when it has been apprehended as causality. This is simply a tautology, for causality is an analogical fiction and ultimately nothing but a word. To-day, at least, this idea has sunk to the rank of a mere word for the philosopher, whereas previously everything was regarded as understood if it could be brought under the category of causality. Thus all so-called proof and understanding is no more than tautology.

Various other concepts are to be regarded as nominal fictions of this kind. For example, chemistry includes many processes under the term "catalytic energy," which is sometimes also ascribed to them.

The eighteenth century, in particular, was responsible for many such ideas in all the sciences, and at that time it was believed that something was actually being understood by this means. But a word of this sort is a mere shell preserving and holding together the essential content, and just as the shell always adjusts itself to the content and simply reflects it as an external counterpart, so these words or concepts represent tautologies that repeat the essential facts under another guise. The best-known example is the *vis dormitiva*. In general it must be remembered that most of what is called knowledge, not merely in ordinary life but also in science, consists of such shells, of ideas in which the facts as they actually exist are grouped together without producing any new knowledge. The

so-called riddles of the universe can never be solved, because most of what appears puzzling to us consists in contradictions created by ourselves, and arises from trifling with the mere forms and shells of knowledge.

p. 64:

CHAPTER XIV

Matter and the Sensory World of Ideas

MATTER is a fiction of this type. It contains contradictory elements, but it is as serviceable as the fiction of force. That matter is really such a fiction is to-day generally agreed. The contradictions inherent in it were conclusively shown by Berkeley in particular, and therein he revealed a remarkably profound insight into the nature of the logical function. The numerous controversies which have developed round this concept always bear upon a point which we have already encountered on several occasions—whether matter is an hypothesis or a fiction. The concept of matter can be elaborated as much as we like; but we can never get rid of the contradictions which have so often been discovered in it. The unknown element at the basis of matter is not thereby denied. What is denied is its identity with the conceptual structure that we call matter.

How closely matter is connected with the concept of substance is obvious, for it is supposed to be substantial, the bearer of forces. That such an idea can only be fictional has gradually become an almost universal assumption since the eighteenth century, and is due especially to Hume. In Germany, Platner in the second edition of his *Aphorisms* (which were influenced by Kant and Hume) expresses himself as follows (Vol. I, p. 415): "Substance is force itself, and a substantial subject containing attributes and force is but an illusory idea of the imagination; for that would lead to the infinite." Modern physics approximates to this view in reducing all phenomena to functions of energy.

This conceptual construct, matter, is made up of quite contradictory elements, but it is very useful for scientific thought, as a fiction. It is therefore quite wrong to follow Berkeley and reject these concepts as useless as soon as their

objective impossibility has been recognized. This shows the very prejudice which still dominates philosophy to-day, namely, that because a concept is logically contradictory, it is for that reason of no value. For precisely the contrary is true, and these contradictory concepts are the most valuable. Many of the fundamental ideas with which science operates are fictions, and the problem is not how to do away with these contradictions—that would be a futile undertaking—but to show that they are of utility and advantage to thought. It is wrong to imagine that only what is logically non-contradictory is logically fruitful. Such an attitude—since so many of the fundamental concepts of science are contradictory—if consistently adhered to would bring us to the conclusion of Agrippa of Nettesheim, that all science is valueless. Our position must be sharply distinguished from this. It is, of course, true that many fundamental scientific concepts are fictional and contradictory and are not a reflection of the world of reality—a world quite inaccessible to us—but this in no way renders them valueless. They are psychical constructs which not only give rise to the illusion that the world is being comprehended, but which make it possible, at the same time, for us to orientate ourselves in the realm of actuality.

It is because our conceptual world is itself a *product* of the real world that it cannot be a reflection of reality. On the other hand, it can serve as an instrument within reality, by means of which the higher organisms move about. It is a symbol by means of which we orientate ourselves; and it is in the interests of science to make this symbol more and more adequate and utilizable, but a symbol it always will remain. There is no reply to the argument that because the conceptual world is a product of the real world, it cannot be identical with it. There is no identity of thought and reality, for the "world" is merely an instrument of thought and, for that reason, the world of ideas is not the ultimate goal of thought. The actual purpose of thought is not thought itself and its products, but behaviour, and ultimately *ethical behaviour*. The means thereto is the objective world in the form of a world of ideas. With Fichte, we can therefore say that the world is the material of ethical behaviour. Fichte erred only in allowing this material to be produced by the ego itself; its *form* alone is a product of the psyche. The world of ideas is essentially an expedient of thought, an instrument, for rendering action possible in the world of reality.

We *deny*, then, that the world as conceived by us has value as knowledge; and we deny, too, that differentials, etc. have any such value. On the other hand, we *insist* that they have practical value, and we regard them as serviceable products of the logical function, as a useful device. Whenever such artificial constructs are consistently used, contradictions arise—the surest sign of a fiction.¹

The true and final purpose of thought is action and the facilitation of action. Looked at from this point of view the world of ideas is, taken as a whole, simply a means and its constituent elements are also merely a means. What we have here is a system of expedients of thought which mutually help and support one another and whose final product is a scientifically purified conceptual world. It is just an extremely sensitive machine constructed by the logical instinct, and related to a pre-scientifically developed world of ideas as a modern iron hammer to the prehistoric stone-hammer of tertiary times, or steam-engine and railway to the crude wagon of the countryside. Both are only instruments, and though very different as regards delicacy and elegance are yet identical in kind. They are instruments, products of the logical instinct, of the logical activity. The entire conceptual world lies between these two poles of sensation and motion. The psyche continually adds new members between these two points, and the delicacy and elaboration of its interpolations, pictures and auxiliary concepts, develop with the growth of the nerve-mass and the increasing isolation of the brain from the spine. Our conceptual world lies between the sensory and motor nerves, an infinite intermediate world, and serves merely to make the interconnection between them richer and easier, more delicate and more serviceable. Science is concerned with the elaboration of this conceptual world, and with the adjustment of this instrument to the objective relations of sequence and coexistence which make themselves perceptible. But when science goes further and makes of this instrument an end in itself, when it is no longer concerned merely with the perfecting of the instrument, it is to be regarded strictly as a luxury and a passion. But all that is noble in man has had a similar origin.

When we say that our conceptual world lies between the sensory and motor nerves we are making use of fictional

¹ For the idea of an external world (*externalité*) as *emploi figuré*, cf. Littré, *Fragments*, 201.

language for, in actual fact, we only have sensations. Our ideas both of movement and nerves, that is to say, of matter, are constructs of our productive phantasy, of fiction. The whole conceptual world is, in other words, inserted between *sensations*; these alone are ultimately given. Only certain sequences of sensation are given to us. The conceptual world is thus a structure made up of elementary sensations and their residue, and serves the purpose of creating easier lines of communication between the various sensory centres. The conceptual world has its origin in all those processes by means of which the elementary sensations are changed, and in accordance with elementary laws. By reason of the condensation, interconnection, etc. of sensations, which takes place within the brain, *i.e.* within that part of reality which we regard as the brain, a more advanced and more developed structure is created for the enrichment and perfection of human activity. In principle, it is irrelevant whether we regard the fictive activity as contemporaneous in origin with the construction of the concept of space, or later: what is fundamental is the recognition that all the more advanced conceptual constructs are merely means for facilitating the intercourse of sentient "beings." The theory of fictions teaches us, however, that the utility of such fictions constitutes no proof of their objective truth; the duty of a logical theory of fictions being to discover the mechanism by means of which these constructions perform their service.

We must therefore regard it as a pardonable weakness on the part of science if it believes that its ideas are concerned with reality itself. It is dealing with reality only to the extent of establishing the inevitable sequences and co-existences. But the concepts which encompass and embrace reality are of a fictional nature, the additions of man, and form merely the frame in which man encloses the treasure of reality in order that he may thus manipulate it better. Science has thus two tasks: (1) to determine the actual sequences and co-existences; (2) to give the ideas with which we invest reality a more concise, more adequate, more useful and more harmless form. This weaving of ideas, on the lines favoured by Aristotle and the Scholastics, is extremely harmful, because it hides the real and turns attention away from reality to the glittering but hollow framework of ideas. Without their aid we could admittedly not deal with the world, nor would we be able to act; they are, in fact, a necessary evil. There have been great thinkers who have regarded concepts and all discursive thought as a necessary

evil without whose help reality could be grasped. The freeing of reality from all concepts, all discursive modes of approach, leads to the attitude of the Greek sophists and sceptics, who believed in suspending all judgment. These philosophers undoubtedly went too far in questioning the material validity of general judgments; for the establishment of an unchangeable sequence and co-existence (or at any rate one that has never changed within our field of observation) is certain knowledge. It is only the formal expression in the *judgment* that is erroneous and fictional, for in the judgment we always have the separation into subject and predicate, substantive and verb, i.e. into thing and attribute, cause and effect. It is therefore impossible for us to express the sequences which we observe without the intervention of discursive thought. But to regard this as an expression of reality is an antiquated attitude.

We must, therefore, accept as actually real only certain sequences of sensation, from which there arise, in accordance with definite laws, structures that are treated as fictions. These develop from sensations in certain sensation-centres and help towards a richer interconnection.

It is, however, not possible without the aid of discursive thought to make ourselves intelligible to others or even to think or calculate. Without this discursive aid we should be disarmed, and there would be nothing left for us to do but to remain silent and stare vacantly into space, after the manner of certain sceptics. We make use of the means which present themselves for dealing with reality, but these additions and supplements are afterwards laid aside, just as in mathematics we drop an imaginary quantity that has been introduced.

A clear-cut distinction is, however, only possible if we definitely decide to regard the discursive aids as subjective instruments.

We are thus gradually led on, and have gradually *removed, from above, the scaffolding that man has erected around reality.* In order to do this, we have always had to rest on the successive rungs and steps of the scaffolding; but again and again we have broken these off, until we have come at last to the basic pillars of the framework itself—to space and matter. This successive breaking-off of the scaffolding of thought is typical of the structure itself and of the

gradual manner in which it has been erected in the course of time during the historical evolution of mankind.

The logical function, when it has reached its goal, abdicates of its own free will; the scaffolding is cast away when its purpose has been achieved.

The importance of the logical function does not prevent it from recognizing its own nothingness. Man's most fallacious conclusion has always been that because a thing is *important* it is also *right*.

This is the same fallacious conclusion to which we have repeatedly called attention. We may not argue from the utility of a psychical and logical construct that it is right; differentials are useful constructs, and yet no one would claim that they exist. As soon as the mechanism by means of which these concepts perform such efficacious service is disclosed, the illusion of their truth disappears, for this only persists as long as the mechanism is concealed.

The logical function is already at work in the production of the elementary basic principles. Psychology shows how the constructs of space, matter, etc. arise out of elementary sensations. The work of discursive thought begins at this point, and it is for this reason that these products of the psyche must also be regarded as fictions created by the logical impulse in order to attain its goal. Thus the logical impulse builds up its products only to destroy them in the end of its own accord. This need not, however, lead to pessimism, for the metal-caster also destroys his mould as soon as the object has been cast. The logical function similarly destroys its fragile framework as soon as it has attained its goal—the establishment of unchangeable relations and connections.

This attitude alone can free us from the pressure of the logical contradiction so constantly concealed in the basic principles and processes of science. It is not these which really matter, for they are but a means. Discursive thought creates more and more delicate means of encompassing and dealing with reality, and it is a logical error to confuse the means, the instrument, with what the instrument was created to deal with.

When the logical mechanism is revealed, its claim to so-called objectivity disappears; for the question, why it happens that we are able to deal with reality by means of fictional constructs, has then been answered. In the last

analysis, this must rest upon a few fundamental mechanical processes of psychical life. If when once this mechanism has been disclosed it is still claimed that these constructs are real, we can only recall the well-known story of the peasant, who after having had a steam-engine explained to him asked if he might see the horse which drew the locomotive.

The mechanism of a locomotive can certainly not be understood without a knowledge of the purpose it fulfils. In the same way the mechanism of thought is not intelligible without a knowledge of the purpose it serves. This purpose can only be that of facilitating conceptual activity, of effecting a safe and rapid connection of sensations. What we have to show, therefore, is how fictional methods and constructs render this possible; for that is exactly the nature of the mechanism of thought, and in the end its goal can only be that of facilitating the interrelation of sensations, i.e. of rendering action easy. We must show, then, how action is made easy thereby, and remember in this connection that the whole mechanism of thought is an articulated system of expedients which mutually support one another, so that fictions serving primarily to perfect the instrument itself become in due course an accessory of this very instrument.

These categories are not forms with any corresponding objective reality. They are merely combinations of thought, formed in response to some type of objective relationship but of purely subjective origin and of no value for understanding. This grouping of events under categories represents one of those circuitous devices which, though indifferent as regards truth itself, are yet indispensable in investigation (Lotze).

The world of ideas thus formed makes action more and more easy. We must however note that these constructs—object, attribute, cause, effect—drop out as soon as their purpose has been attained. Their aid renders action easier and makes the operations of thought possible; but as soon as the desired sensations have occurred, the conceptual forms lose their value. Man does not want “things” but the occurrence of certain sensations. Fictions, even though they remain theoretically, drop out as far as practice is concerned, as soon as the desired result is attained. But it cannot be denied that thought obtains its practical success only at the price of its logical purity. The logical function—which consists of just these processes—is not afraid of the mistakes and contradictions which result.

Thus thought moves forward through contradiction as we have already repeatedly observed. The conceptual constructs inhere in the psyche even after their purpose is achieved; and though these logical processes have attained their practical results, their forms persist as residues and husks. These forms constituted the subject-matter of philosophy until the theory of knowledge proved them to be mere forms of fictional origin and value.

Logically considered, these psychical constructs are fictions and not hypotheses relating to the nature of reality, as many philosophers supposed until the contradictions they contained proved that there was nothing objective corresponding to them. For our “critical” standpoint they are only fictions, i.e. conceptual and ideational aids.

xxxviii

During the latter part of the year 1876, for my inaugural dissertation, I wrote down my thoughts in a large manuscript, to which I gave the title "Logical Studies. Part I: The Theory of Scientific Fictions." As I had been carefully collecting the material for several years and had gone into it most thoroughly many times, the writing of it did not take me long. I handed in my MS. in the New Year and at the end of February 1877 I received my *venia legendi*. The work which received this recognition from the Faculty is exactly the same as what was published in 1911 as the "Part I: Basic Principles" of *The Philosophy of 'As if'*. In it I developed the whole system of scientific fictions, that is to say the 'As if' treatment, applied practically to the most varied aspects of science, and I tried to give an exhaustive theory of this manifold 'As if' process.

xl

In 1906, in the midst of all these curious complications and crossings of my original intentions, a misfortune unexpectedly brought a happy solution, and enabled me after twenty-seven years to return to my original plan, which I had given up in 1879. The misfortune was the weakening of my eyesight, so that it became impossible for me to continue my lectures, or the special classes which I particularly enjoyed. So I had to give up my official duties. The eyesight still remaining to me was just sufficient to allow me to publish my MS. I got my Dissertation of 1876 copied, and introduced a number of small editorial alterations. This comprehensive MS. now forms "Part I: Basic Principles" of *The Philosophy of 'As if'*. I also completed the revision which I had made between 1877 and the beginning of 1879 on the basis of the reviews of that time, and this forms the Part II (Special) of the complete work. This part took me two and a half years because of my bad eyesight, and Part III (Historical) took me another two and a half years. Between 1877 and 1879 I had made a note of the most important 'As if' passages in Kant's works, and I now completed this in an exhaustive manner, so that I was able to produce a monograph on Kant's 'As if' theory of nearly one hundred pages. The exposition of Forberg's religion of 'As if' also took me a long time, and so did the development of F. A. Lange's "Standpoint of the Ideal," with which I had much in common. But what took longer still was the final section on Nietzsche's theory of Fictions, which he had condensed into a few pages. It was the Spring of 1911 before the work appeared.

I will end by summarizing all the conclusions which are expressed in the Philosophy of 'As if', or which form its basis or arise out of it, as follows :—

(1) Philosophical analysis leads eventually, from an epistemological standpoint, to sensational contents, and from a psychological to sensations, feelings and strivings or actions. Scientific analysis leads to another concept of reality, to matter and the smallest constituents and motions of matter. Naturally it is impossible for the mind as such to bring these two spheres of reality into a rational relation, although in intuition and experience they form a harmonious unity.

(2) The strivings which probably exist in the most elementary physical processes develop in organic beings into impulses. In man, who has sprung from the animal (and to a certain extent

in all the higher animals) these impulses have evolved into will and action, which is expressed in movements and caused by stimuli or by the sensations arising from stimuli.

(3) Ideas, judgments and conclusions, that is to say thought, act as a means in the service of the Will to Live and dominate. Thought is originally only a means in the struggle for existence and to this extent only a biological function.

(4) It is a universal phenomenon of nature that means which serve a purpose often undergo a more complete development than is necessary for the attainment of their purpose. In this case, the means, according to the completeness of its self-development, can emancipate itself partly or wholly and become established as an end in itself (Law of the Preponderance of the Means over the End).

(5) This Preponderance of the Means over the End has also taken place in thought, which in the course of time has gradually lost sight of its original practical purpose and is finally practised for its own sake as theoretical thought.

(6) As a result, this thought which appears to be independent and theoretical in its origins, sets itself problems which are impossible, not only to human thought, but to every form of thought; for instance, the problems of the origin and meaning of the universe. To this category belongs also the question of the relation between sensation and motion, popularly known as mind and matter.

(7) These endless, and, strictly speaking, senseless questions cannot be answered by looking forwards but only by looking backwards, by showing how they arose psychologically within us. Many of these questions are just as meaningless, as for instance the problem of $\sqrt{-1}$.

(8) If intellectualism or rationalism be identified with the assumption of an original theoretical reason as an inherent human faculty with certain problems to be determined by it, then my exposition must be termed anti-rationalism or even irrationalism, in the same sense in which histories of modern philosophy, for instance that of Windelband, speak of "idealistic irrationalism".

(9) From this standpoint all thought-processes and thought constructs appear a priori to be not essentially rationalistic, but biological phenomena.

(10) In this light many thought-processes and thought-constructs appear to be consciously false assumptions, which

either contradict reality or are even contradictory in themselves, but which are intentionally thus formed in order to overcome difficulties of thought by this artificial deviation and reach the goal of thought by roundabout ways and by-paths. These artificial thought-constructs are called Scientific Fictions, and distinguished as conscious creations by their 'As if' character.

(11) The 'As if' world, which is formed in this manner, the world of the "unreal" is just as important as the world of the so-called real or actual (in the ordinary sense of the word); indeed it is far more important for ethics and æsthetics. This æsthetic and ethical world of 'As if', the world of the unreal, becomes finally for us a world of values which, particularly in the form of religion, must be sharply distinguished in our mind from the world of becoming.

(12) What we usually term reality consists of our sensational contents which press forcibly upon us with greater or lesser irresistibility and as "given" can generally not be avoided.

(13) In these given sensational contents (which include what we call our body) there is an abundance of regularity in co-existence and succession, investigation of which forms the content of science. By means of the sensational contents which we call our body, we can exercise greater or lesser influence on the rich world of the other sensational contents.

(14) In this world we find on the one hand a very great number of relations of fitness, on the other hand much that is not fitting. We have to take this as we find it, for there is little that we can alter. It is a satisfying Fiction for many to regard the world as if a more perfect Higher Spirit had created or at least regulated it. But this implies the supplementary Fiction of regarding a world of this sort as if the order created by the Higher Divine Spirit had been destroyed by some hostile force.

(15) It is senseless to question the meaning of the universe, and this is the idea expressed in Schiller's words: "Know this, a mind sublime puts greatness into life, yet seeks it not therein" (*Huldigung der Künste* 1805). This is positivist idealism.